



PROCEEDING ICABEC 2022

7th International Conference on Accounting,
Business and Economics

“ Green Business towards Sustainable Development ”

24-26 October 2022

**FACULTY OF BUSINESS, ECONOMICS AND SOCIAL DEVELOPMENT
UNIVERSITI MALAYSIA TERENGGANU**



<https://bit.ly/icabec2022>

PROCEEDING ICABEC 2022

**7th International Conference on Accounting, Business and Economics
“Green Business towards Sustainable Development”**

Editors

Akmalia M. Ariff

Siti Nurain Muhmad

Muhamad Rias K V Zainuddin

© 2022 All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical including photocopy, recording or any information storage or retrieval system, without permission in writing from Director, Penerbit UMT, Universiti Malaysia Terengganu, 21030 Kuala Nerus, Terengganu, Malaysia.

TABLE OF CONTENT

<i>Preface</i>		vi
ACCOUNTING		
1	The Joint-Effect of Corporate Risk Taking and Strength of Investor Protection on Corporate Cash Holdings in MENA Countries <i>Fatima Saleh Abd Almajeed Al-Hamshary, Akmalia M. Ariff, Khairul Anuar Kamarudin & Wan Zainuddin Wan Abdullah</i>	2
2	Should ESG Disclosure Be Mandatory? An Overview <i>Amr Hani Mahmoud Moharram, Hafiza Aishah Hashim, Waleed Mutahar Abdulhadi & Shayuti Mohamed Adnan</i>	8
3	Sustainability Assessment of Solid Oxide Fuel Cell (SOFC) Applications: Survey of Palm Oil Mills <i>Ruhanita Maelah, Hawa Hishamuddin, Amizawati Mohd Amir & Mohd Nizam Ab Rahman</i>	12
4	The Effect of Corporate Governance Best Practices on the Quality of Carbon Disclosures Among Malaysian Public Listed Companies <i>Abbas Abdelrahman Adam, Zalailah Salleh, Hafiza Aishah Hashim & Wan Zuriati Wan Zakaria</i>	17
5	The Impact of CEO Masculinity on the Earnings Management <i>Tamer Elsheikh, Hafiza Aishah Hashim & Nor Raihan Mohamad</i>	20
6	Exploring Ethical Culture in Malaysian Small Medium Enterprises (SMEs) <i>Siti Faizah Zainal, Hafiza Aishah Hashim, Zalailah Salleh, Akmalia M. Ariff & Nor Raihan Mohamad</i>	24
7	Female Representation on Boards and Carbon Disclosure Quality Among Malaysian Public Listed Companies <i>Abbas Abdelrahman Adam, Zalailah Salleh, Hafiza Aishah Hashim & Wan Zuriati Wan Zakaria</i>	29
8	Integrated Reporting, Organizational Complexity and Firm Value: Evidence from Egypt <i>Abdellatif Hussein Abogazia, Hafiza Aishah Hashim & Zalailah Salleh</i>	32
9	The Moderation Effect of Corporate Life Cycle on the Relationship Between SMA Information Usage and the Choice of Competitive Strategy: A Multigroup Analysis <i>PuZhao, Raman Noordin & Stephen Laison Sondoh Jr.</i>	35
10	Climate Change Strategies in the Transportation Sector of Malaysia <i>Normajidah Zulkifli Yeo, Jamaliah binti Abdul Majid & Nor Atikah Shafai</i>	39

11	A Review of Ownership Structure and Accounting Conservatism <i>Omar Marwan Al-Smadi & Shahnaz Ismail</i>	41
12	Halal Business Responsibility Practices of Malaysian Food SMEs from the Stakeholder Theory: A Conceptual Paper <i>Juliana Anis Ramli, Hafiza Aishah Hashim & Zalailah Salleh</i>	46
13	The Impact of Contingency Factors on the Performance Measures Dimensions <i>Ayman Mohammad Aburumman, Rosliza Mat Zin & Norazlina Ilias</i>	49
14	Water Disclosures by Malaysian Healthcare Companies: Exploring the Quality <i>Noor Afzalina Mohamad & Zalailah Salleh</i>	51
15	Corporate Initiatives in Addressing Climate Change and Their Carbon Performance: Evidence from Malaysia <i>Jamaliah Bt. Abdul Majid & Noriah Bt. Che Adam</i>	55
 BUSINESS		
16	Kelestarian Eco Pelancongan: Potensi Inap Desa di Felda Trolak Sebagai Produk Pelancongan di Malaysia <i>Siti Hawa Radin Eksan & Noor Raudhiah Abu Bakar</i>	58
17	A Conceptual Model for The Adoption of Green Building Technology in the Construction Industry <i>Md Shaharul Islam, Abu Bakar Sade, Syed Shah Alam & Md. Uzir Hossain Uzir</i>	62
18	Green Service Quality, Green Corporate Image, Green Customer Satisfaction and Green Customer Loyalty of Higher Educational Institutions <i>Siti Falindah Padlee, Dania Qistina Balqis Muhammad Hanif, Fathilah Ismail, Noor Zatul Iffah Hussin, Marhana Mohammed Anuar, Siti Nur Atikah Zulkiffli & Nur Amalina Mohamad Zaki</i>	67
19	The Impact of External and Internal Factors on E-Waste Management Practice in Malaysia: The Role of Eco-Efficiency Strategy <i>Hafizah Abd-Mutalib, Che Zuriana Muhammad Jamil, Rapih Mohamed, Nor Atikah Shafai & Saidatul Nurul Hidayah Jannantun Naim Nor Ahmad</i>	70
20	Understanding Eco-Innovation Capabilities and Business Performance of Malaysian SMEs During COVID-19 Pandemic <i>Siti Nur 'Atikah Zulkiffli, Najahul Kamilah Aminy Sukri & Nik Hazimah Nik Mat</i>	74
21	Assessing the Readiness of Sustainability Development Among MSMEs <i>Arifha Mohamad, Umi Katini Rashid, Wan Fauziah Wan Fauzi & Mohd Nazir Mohd Adi</i>	77
22	Investing in Socially Responsible Investment (SRI): The Role of Responsibility, Consciousness and Literacy in an Extended TPB Model <i>Pick-Soon Ling, Liing Sing Ling & Sarah Dayang Wasali</i>	82
23	The Use of Banking Information System to Improve Service Performance: The Mediating Influence of Bank Features <i>Jehan Ahmad Khairo Abu Rasaul, Mohd Shaari Bin Abd Rahman & Faozi Almaqtr</i>	88

24	Reliability and Validity of Occupational Safety and Health Management Practices Questionnaire (OSHMPQ) in Public Education Institutions: A Rasch Model Analysis	92
	<i>Muhamad Affandi Ismail, Fahirah Shaliza Mokhtar & Azlinzuraini Ahmad</i>	
25	Designing a Conceptual Theory for Transformational Leadership, Employee Performance, Employee Competence and Organization Performance: A Preliminary Study in Manufacturing Industry in Banten, Indonesia	94
	<i>Dani Taupan Ramdani, Yuary Farradia & Juhaizi Mohd Yusof</i>	
26	Visualising Emotional Intelligence Global Search Trends Using Bibliometric Analysis	96
	<i>Syahrir Rahman & Nomahaza Mahadi</i>	
27	Factors Affecting Acceptance-Intention-Purchase and Satisfaction on Smartwatch Usage as an Applied Artificial Intelligence in A Developing Country	100
	<i>Md. Uzir Hossain Uzir</i>	
28	Factors Influencing Youth Fast Food Consumption	106
	<i>Nur Amerah Nabihah Mohd Nazri, Kyirin Khalisah Mohamad Nizam, Nor Syafiqah Nasran, Norzaidah Ngali & Norazlina Rahmat</i>	
29	Sustaining Business During the Pandemic: Case Studies Among Muslimpreneurs	112
	<i>Siti Nurulhuda Nordin, Norasikin Hj Salikin, Ummi Salwa Ahmad Bustamam, Syadiah Abdul Shukor & Intan Fatimah Anwar</i>	
30	The Effects of Perceived Risks Toward Consumer Intention in Purchasing Healthcare Products Virtually	118
	<i>Nur Aqilah Alias, Nur Amalina Mohamad Zaki & Zuha Rosufila Abu Hasan</i>	
31	Understanding the Psychological and Social Factors That Influence Consumer Behaviour Since the Outbreak of COVID-19 Pandemic	122
	<i>Muhammad Ashif Mohd Saperi & Nur Amalina Mohamad Zaki</i>	
32	Personality Traits and Intrinsic Motivation Towards Happiness Among Millennials in Malaysia: Perspective of Malaysian Business Students	125
	<i>Muna Wadhiha Mohd Fauzi, Norashikin Hussein, Murni Zarina Mohamed Razali, Nur Aizureen Anwar & Norhayati Omar</i>	

ECONOMICS

33	Heterogeneous Macroeconomics Impact on Income Inequality for Various Groups in Malaysia	131
	<i>Muhamad Rias K V Zainuddin, Abdul Hafizh Mohd Azam, Norhasimah Shaharuddin & Noorhaslinda Kulub Abd Rashid</i>	
34	Visitor's Experiences of Values and Benefits Towards Museum Visitations in Selangor Darul Ehsan, Malaysia	136
	<i>Muhamad Amirul Hafiz Zulkifli, Nur Syuhaidah Ayub, Mohd Syuhaidi Abu Bakar & Fazlina Jaafar</i>	
35	Scale-Dependent Foreign Exchange Exposure: A Case of Plantation Sector in Malaysia	139
	<i>Hishamuddin Abdul Wahab, Nurul Afaaf Mohd Nasir, Sharifah Fairuz Syed Mohamad & Muhammad Safwan Ibrahim</i>	

36	Millennials Attitude and Intention on Extra Contribution of Retirement Savings <i>Noraini Ismail, Zulkifli Abdullah & Maizaitulaidawati Md Husin</i>	143
37	The Role of Zakat Institution in Addressing Climate Change: The Case of Lembaga Zakat Negeri Kedah <i>Mohd Shafiq Bin Mohd Naser, Mohd Sollehudin Shuib & Jamaliah Abdul Majid</i>	148
38	The Impact of E-Banking Service Quality on Customer Satisfaction Among University Students in Malaysia <i>Nur Ain Atiqah Aznan, Sharifah Fairuz Syed Mohamad & Shahrina Ismail</i>	150
39	Determinant of Household Water Usage and Consumer Behaviour in Terengganu <i>Zuraini Anang, Mahirah Kamaludin & Noorhaslinda Kulub Abd Rashid</i>	155
	LIST OF PAPER REVIEWERS	158

PREFACE

The 7th International Conference on Accounting, Business and Economics (ICABEC 2022) is a bi-annual conference organized by the Faculty of Business, Economics and Social Development (FBESD), Universiti Malaysia Terengganu (UMT). The theme for this conference is “Green Business Towards Sustainable Development”. The conference aims to bring together practitioners, academicians and policy makers to share and disseminate knowledge pertaining to issues and challenges in safeguarding stakeholders’ interests for future sustainable business environment. It is our sincere hope that this conference benefits all participants and that everyone has been able to utilize the knowledge and networking therein for our common future benefit.

Despite the ongoing global health crisis, and this event being held hybrid for the first time, the conference complements the growing importance of sustaining the economic prosperity of the nation through the dissemination of recent research findings on the related fields. This year the theme focuses on the topical issues relating to the green business and its significance as we are moving towards sustainable development. As we all know, sustainability is an increasingly important issue for many people, especially in the business world. Climate change continues to affect our lives as well as the fate of all other species on the planet. For business owners, leaders, and administrators, sustainable business practices are becoming imperatives. Green business ensures the sustainability of economic industries as it plays a major role of the climate change picture because of its reliance on land, resources, fossil fuels, and non-stop production and consumption.

It is hoped that this conference organised by UMT has served as a platform to discuss the issues faced by small and medium businesses, as well as large corporations, from the perspectives of accounting, business, economics, marketing, and finance and suggest potential solutions to take these organisations forward. Ideas from both academicians and practitioners may thus help businesses to stimulate recovery and sustainability and ensure a more prosperous future. Thus, dissemination of research findings is crucial to ensure that the benefits of the study are passed on to others and that it is put to good use.

With the documentation of these research output, we hope that our efforts contribute in the spill over of knowledge as this are consistent with UMT’s mission which is to generate knowledge for the prosperity of the community and world sustainability. Hopefully stakeholders and future researchers benefit from this sharing and lead to the continuity of research that will facilitate universal human life based on a prosperous and sustainable civil society. May this effort be one of the reasons to get a good reward from Allah SWT.

November 2022

ICABEC 2022

ACCOUNTING

THE JOINT-EFFECT OF CORPORATE RISK TAKING AND STRENGTH OF INVESTOR PROTECTION ON CORPORATE CASH HOLDINGS IN MENA COUNTRIES

*Fatima Saleh Abd Almajeed Al-Hamshary**
Imam Abdulrahman Bin Faisal University, Saudi Arabia & Universiti Malaysia Terengganu,
Terengganu

Akmalia M. Ariff
Universiti Malaysia Terengganu, Terengganu

Khairul Anuar Kamarudin
University of Wollongong in Dubai, United Arab Emirates

Wan Zainuddin Wan Abdullah
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *bluelady_fatoom@yahoo.com*

ABSTRACT

This study investigates the impact of corporate risk taking and investor protection on cash holding of firms in MENA countries and tests the moderating role of investor protection on the relationship between corporate risk taking and cash holding. The perspectives of the precautionary savings and agency theory are employed in setting the views on the link between corporate risk taking, investor protection and cash holdings. Analysis that uses 2,208 firm-year observations from 6 MENA countries through 2011-2020 indicates a negative impact for both corporate risk taking and investor protection on the cash holding of firms in MENA countries. Moreover, investor protection moderates the negative impact of corporate risk taking on cash holdings. Several robustness tests that were performed, such as employing weighted least squares (WLS) regression and testing for endogeneity, confirm the results of the main analysis. The findings have practical implications in adding to the understanding on firm-level and country-level factors that determine cash holding strategy by the firms in MENA countries. For investors, the findings provide input for evaluating the performance of companies in relation to the cash holding since large cash reserve can assist to minimize risk but can also be subject to agency manipulations.

KEYWORDS: Corporate risk taking; investor protection; corporate cash holdings; MENA.

PURPOSE AND BACKGROUND

Corporate cash holding is an important topic in finance that has received increasing interest from various stakeholders. Practically, cash holdings play an important role in the firm's balance sheet (Tong, 2011), where cash and cash equivalents are items of financial statements that can be used as a basis for the establishment of company policies and the decision making for external users (Arfan,

Basri, Handayani, Majid, Fahlevi & Dianah, 2017). For all kinds of businesses, many challenges may arise on how to control the cash that they have, especially in determining the amounts of cash that should be invested to be more profitable and the amounts of cash reserves that must be retained for the future needs. The holding of cash relates to the agency problem from the conflict between the desires of the managers and the benefits of the shareholders. More specifically, shareholders would prefer lower cash reserve because cash-holding will not generate greater profit, while managers may prefer to hold more cash to increase their overall discretion especially in maintaining financial stability. A reasonable amount of cash reserves should be maintained to handle uncertain situations. Due to that, conflict between the profitability and liquidity would arise, and thus, the need to understand corporate cash holding strategy becomes essential. There are many reasons of why corporate cash can vary from a firm to another, among which include the agency costs, characteristics of firms and investment opportunities (Bao et al., 2012). This study attempts to examine factors that affect corporate cash holdings by focusing on firm-level and country-level perspectives. We add to the empirical evidence by examining the joint-effect of corporate risk taking and strength of investor protection on corporate cash holdings in MENA countries.

Several reasons justify our focus on corporate cash holdings in the MENA countries. First, the oil-based economic prosperity in MENA would mean there are huge investment opportunities that would require greater considerations on corporate cash holding strategy. Second, MENA are classified as emerging markets which consist of differing levels of development and financial reform (Al-Najjar and Clark, 2017). Third, transformational reform programs have been adopted in most MENA countries to improve the quality of investment environment and the economic system (Albaity et al., 2021). Therefore, the features of firms and countries within MENA provide a unique setting to explore the way cash holding strategy would differ.

Firstly, issues on corporate cash holding can be viewed from the perspective of corporate risk. Corporate risk-taking refers to the choice of risk in the process of corporate managers' investment decisions, which reflects their tendency to devote resources to analyzing how to grasp market opportunity and pursue high return (Zhou et al., 2018). Risk taking is a value-added behavior, which plays an important role in decision making and is critical to corporate performance and survival in the long run (Sanders & Hambrick, 2007). With regards to cash-holding, the greater the uncertainty or volatility of cash flow of a firm, the greater the likelihood of operational cash shortages, and hence more reasons for them to hold cash in larger amounts (Dittmar, 2008). The lack of cash will limit companies from achieving the desired performance, especially their ability to compete against other companies either in the local or global market. Corporate cash holdings are determined by various aspects of corporate risks (Da Cruz et al., 2019; Weidemann, 2018). A positive association between

corporate risk taking and cash holding would mean that the cash reserves are believed to be used efficiently in potential investment opportunities (precautionary savings perspective), while a negative association would mean that the cash reserves would entice towards unprofitable investments by entrenched managers (agency problem perspective). In sum, there are mixed findings on whether and how corporate risk taking explains cash holding. We attempt to investigate the corporate cash holdings decisions in implication of ambiguity and uncertainty due to corporate risk takings strategies. Hence, this study hypothesized that there is an association between the corporate risk taking and cash holdings of firms in the MENA countries.

Secondly, considering that there are cross-country variations in cash holding worldwide (El-Halaby et al. 2021), the country-level determinant of cash holdings needs to be factored in understanding corporate cash holding strategy. The strength of investor protection, provided by a legal system, has important consequences on corporate practices due to the influence it has on managerial incentives. The greater the strength of investor protection, the more developed the financial markets are (Bergman & Nicolaievsky, 2007). Investor protection directly affects the values of companies by relaxing the financial constraints in the case of underinvestment, or by alleviating agency problems in the case of overinvestment. In the aspect of cash holding, the strength of investor protection is shown to explain the cash holds by firms (Tran, 2020; Martins, 2019; Iskandar-Datta and Jia, 2014;). Investor protection would serve as governance mechanisms against managerial entrenchment, and hence firms in strong investor protection country would be trusted to hold high cash reserves. However, if strong investor protection would mean greater ability to exercise shareholders' rights, firms in strong investor protection country would be expected to hold low cash reserves. The mixed empirical evidence triggers for better explanations on corporate cash holdings in two aspects: 1) how would investor protection of specific economic region, such as MENA, affect corporate cash holding? and 2) how would firms in various stages of corporate risk taking strategize on their cash holdings given the variations in their institutional environment due to the different strength in investor protection of the countries they reside? While some studies have found that strong investor protection measures reduce corporate cash holdings, others suggest that managers in companies with weak investor protection tend to use cash holdings for unprofitable projects (Martins, 2019). Hence, this study hypothesized that the strength of investor protection moderates the association between the corporate risk taking and cash holdings of firms in the MENA countries.

METHODOLOGY

The sample includes non-financial firms from MENA countries covering the period of 2011 to 2020. We exclude financial firms because their cash holdings would be subject to the requirements set by their national banking regulators and the liquidity needs differ than other types of companies. We

extract firm-level data from Thomson Reuters Fundamentals, while the country-level data are extracted from the World Economic Forum by the World Bank. In deriving the sample, we follow the approaches of the prior studies (e.g., Ariff and Kamarudin, 2019) to exclude highly regulated industries. Winsorization at the top 99% and bottom 1% is also performed to remove extreme values. Based on data availability, the final sample are 2,208 firm-year observations from six MENA countries: Kuwait, Morocco, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

We regress Equation (1) to test the hypotheses of the study on the i) relationship between corporate risk taking and cash holding, ii) the relationship between investor protection and cash holdings, and iii) the moderating effect of investor protection on the relationship between corporate risk taking and cash holdings.

$$CCH_{it} = \beta_0 + \beta_1 CRT_{it} + \beta_2 SIPS + \beta_3 CRT_{it} * SIPS + \beta_k FIRMVARS_{it} + \beta_l COUNTRYVARS_{it} + \vartheta_{1-n} Fixed_Effects + \varepsilon_{it} \quad (1)$$

Where corporate cash holding (CCH) is the proportion of cash and equivalents to total assets (Abdioğlu, 2016); corporate risk taking (CRT) is the standard deviation of the return on the asset (ROA) over a three-year period (Shahzad et al., 2019); SIPS proxies for the strength of investor protection index; FIRMVARS represent the firm-level control variables; COUNTRYVARS reflects the country-level control variables, and Fixed_Effects are the vectors for industry and year fixed effects. FIRMVARS consist of FSIZE, the natural logarithm of total assets; LEV, the total liabilities over the total assets, GROWTH, the firm-specific growth based on changes in sales; LOSS, an indicator for loss firms; MKTBK, the ratio of the market-to-book value profit, QUICK, the ratio of the current assets minus the inventory divided by the total current liabilities; AGE, the natural log of the number of years since incorporation; and RETEQ, the ratio of the retained earnings to total equity. The model also include control for firm life cycle (LIFECYCLE) namely, INTRODUCTION, GROWTH, MATURE, DECLINE, and SHAKE-OUT. COUNTRYVARS include GDP, the gross domestic product per capita and INF, the inflation rate.

FINDINGS

The results show that 1) firms with higher levels of risk taking tend to have lower cash holding, and 2) firms that reside in MENA countries with greater strength of investor protection exhibit lower cash holding. The findings suggest that corporate risk taking has negative effects on the cash holding of firms in MENA countries. The greater the risk taking of the firm, the lesser amount of cash that the firms hold. This could be explained from the perspective of the finance rule that "the higher the risk, the higher the rate of return". It is possible that high-risk taking firms in MENA countries prefer not to hold cash but invest them in order to generate higher return. This may also reflect the policy of the firms in MENA countries in dividends distribution, which mean that they tend to pay dividends, and this will reduce the cash they have. The findings also suggest that the strength of investor protection

has negative effects on the cash holding of firms in MENA countries. The greater the strength of investor protection, the lesser amount of cash that the firms hold. The result is in line with the view that strong investor protection provides greater ability to exercise shareholders' rights. Hence, shareholders' perspective would be considered in strategizing for cash holding, in which lower cash reserve would be exhibited since it is preferred to invest cash in more profitable investment opportunities.

The results further show that the joint-effect of corporate risk taking, and strength of investor protection is associated with a higher level of cash holdings. This means that high-risk taking firms that are domiciled in high-level investor protection countries would have the tendency to hold greater cash reserves. The strength of investor protection moderates the relationship between corporate risk taking and cash holding in the MENA setting. For high-risk taking firms, being in the institutional environment that promotes greater governance through stronger investor protection would allow greater trust in the ability of managers to manage the cash reserve. Hence, the situation promotes the precautionary motive of reserving cash in high-risk environment.

The findings of the main analysis are shown to be consistent and robust across various tests using alternative variables, catering for global economic crisis effect, and addressing the endogeneity issue.

CONCLUSIONS

This study examines the impact of corporate risk taking and investor protection on cash holding, and whether the strength of investor protection influences the impact of risk taking on cash holdings in the MENA countries. Generally, companies need to strategize on the level of the cash that they hold to match its needs and thus, it is very important to know the factors that affect the cash holding in order to derive at the right decisions. The negative association shown between corporate risk taking and cash holding provides support for the agency problem that hinders the holding of cash. Further, the negative association shown between the strength of investor protection and cash holdings reflects the exercise of shareholders' rights in those countries. Finally, the moderating affect for the strength of investor protection on the association between corporate risk taking and cash holding suggest a precautionary motive of holding cash that is promoted in the institutional environment that would ensure good governance that limit the agency problem associated with the holding of cash.

CONTRIBUTION/PRACTICAL IMPLICATIONS

Our study contributes to the prevalent literature in two ways. First, this study focuses on the MENA countries, by exploring the perspectives of the non-financial firms in the institutional settings of emerging markets with great potential of investment opportunities. Second, we add to the mixed empirical evidence on corporate risk taking and cash holding, and investor protection and cash

holding. Most of the prior studies in this area focuses on firm-level variables, and often are country-specific. We consider both the firm-level variable and country-level variable to test the joint-effect of those in determining corporate cash holding.

Regarding the practical implications of this study, our findings explain the motives behind the cash holding strategy of companies. Our findings indicate the need to promote strong investor protection that would minimize the agency costs of the high cash holding among high risk-taking firms. Investors could benefit by factoring corporate risk taking and investor protection in evaluating corporate cash to assist them in managing the risk and return of their investment. Managers can strategize to determine the appropriate policy for cash holding according to the level of corporate risk taking and strength of investor protection.

REFERENCES

- Abdioğlu, N. (2016). Managerial Ownership and Corporate Cash Holdings: Insights from an Emerging Market. *Business and Economics Research Journal*, 7(2), 29 -41.
- Al-Najjar, B., & Clark, E. (2017). Corporate Governance and Cash Holdings in MENA: Evidence from Internal and External Governance Practices. *Research in International Business and Finance*, 39, 1-12.
- Arfan, M., Basri, H., Handayani, R., Shabri, M., Fahlevi, H., & Dianah, A. (2017). Determinants of Cash Holding of Listed Manufacturing Companies in the Indonesian Stock Exchange. *DLSU Business and Economics Review*, 26(2), 1-12.
- Bao D, Chan, K., & Zhang, W. (2012). Asymmetric Cash Flow Sensitivity of Cash Holdings. *Journal of Corporate Finance*, 18(4), 690–700.
- Martins, H. C. (2019). Investor Protection, Managerial Entrenchment, and Cash Holdings: Cross-Country Evidence. *International Finance*, 22(3), 422-438.

SHOULD ESG DISCLOSURE BE MANDATORY? AN OVERVIEW

Amr Hani Mahmoud Moharram
Universiti Malaysia Terengganu, Terengganu

Hafiza Aishah Hashim
Universiti Malaysia Terengganu, Terengganu

Waleed Mutahar Abdulhadi
Universiti Malaysia Terengganu, Terengganu

*Shayuti Mohamed Adnan**
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *shayuti.adnan@umt.edu.my*

ABSTRACT

This study aims to outline the nature and key features of ESG disclosure. Moreover, we review research that examines the real outcomes associated with the transition to mandatory ESG disclosure. Finally, we discuss the current developments in ESG disclosure aimed at standardization of ESG.

KEYWORDS: Mandatory ESG disclosure, Voluntary ESG disclosure, ESG standards, Greenwashing

PURPOSE AND BACKGROUND

The purpose of this study is to discuss the determinants of ESG disclosure and determine whether the transition to mandatory disclosure has beneficial real outcomes and shed light on the current initiatives that aim to create universal standards to enforce the adoption of ESG disclosure. During the past decades, environmental, social, and governance (ESG) reporting practices have become more common among firms and the demand for information about firms' ESG activities and policies has steadily risen to improve market transparency, build trust with their stakeholders (e.g., institutional investors, analysts, creditors, government, suppliers, and society) and encourage management to pursue firm value maximization (Dos Santos et al., 2022). In fact, managed ESG assets are believed to grow to represent over one third of total global assets (projected to hit \$140 trillion) by 2025 (Ostbirk & College, 2022).

In response to the demand for ESG information, numerous organizations (e.g., GRI, <IR>, SASB, TCFD, etc.) offer (voluntary) reporting standards for ESG activities that aim to improve or harmonize reporting practices (Larrinaga & Bebbington, 2021). In addition, Similar to credit ratings, publicly-listed firms receive ESG ratings by third-party agencies (e.g. Sustainalytics, MSCI, Bloomberg, Refinitiv). Therefore, stakeholders can develop their own independent and informed views on firms' sustainable performance in all areas of ESG activities (Ostbirk & College, 2022).

There are two major types of ESG reporting regulations either “Voluntary” or/and “Mandatory” reporting regime. Voluntary reporting allows for near complete customization of style, format and content of disclosures because ESG reporting lacks a concrete disclosure framework. The selective nature of ESG reporting may leave spaces for frauds and green-washing activities that, in turn, may harm long-term financial performance (Cupertino et al., 2022). Therefore, the ESG scores produced by different rating agencies may show a similar degree of inconsistency that can mislead investors and materially affect investment decisions. (Krueger et al., 2021).

In this regard, the introduction of regulations and the transition from a voluntary to a mandatory disclosure can mitigate the risk of fraudulent practices (Yu et al., 2020), improve the quality, objectivity, and accuracy of ESG disclosure and, consequently, lead to greater financial performance (Ioannou & Serafeim, 2017). Therefore, the need for mandatory ESG disclosures is exceedingly warranted.

In response to the gap between the demand for ESG information by investors and the supply of information by firms, several countries (e.g., China, the EU, U.K., U.S., South Africa) have recently imposed Mandatory ESG disclosure on select firms in their jurisdictions (e.g., Directive 2014/95/EU) (Christensen et al., 2021).

However, it is important to recognize that mandatory disclosure regimes are costly to design, implement, and enforce, and it is not a priori obvious that they would necessarily achieve better outcomes (Ostbirk & College, 2022). Therefore, taking a step back, this does raise an interesting question, Does Mandatory ESG disclosure associate with beneficial real outcomes?

A study conducted by (Krueger et al. 2021) found that a significant positive impact of mandatory ESG disclosure regulations on the propensity of firms to file ESG reports and on the quality of these reports, particularly among firms where ESG-related concerns and information demands by investors are largest. Mandatory ESG disclosure increases the accuracy of analysts’ earnings forecasts, lowers analyst forecast dispersion, reduces negative ESG incidents, and lowers the likelihood of stock price crashes. Overall, these findings suggested that mandatory ESG disclosure has beneficial informational and real effects.

In the same way, The study of (Mack, N. P., 2021) found that Mandatory ESG disclosure would make it more difficult for so-called “brown” firms to get away with greenwashing tactics and (Christensen et al., 2021) suggested that If Mandatory ESG disclosure leads to more transparency and allows investors to better assess managerial behaviour. As a result, this could be lead to a reduction in agency costs and costs of peer benchmarking and has a positive effects on firm value. Furthermore, It can lead to increased performance by improved public reputation, and through that, potentially a

lower cost of capital (Raimo et al., 2021). Finally, (Liu & Tian, 2021) found that mandatory ESSG disclosure contributes to improvement in real economic efficiency.

In order to adopt mandatory ESG disclosure to reach its full potential, it must be done with sufficient and appropriate structures put in place, such as a clear set of disclosure standards and the establishment of SEC-approved ESG accounting and consulting firms (Ostbirk & College, 2022). Even if some models and standards are very popular, comprehensive, and widely adopted (GRI, <IR>, SASB, TCFD, etc.), there are no universal standards, at the moment. (Barker et al., 2020). Thus, the lack of comparability grounded in lack of standardization.

Consequently, one of the most effective ways to achieve comparable information is through a normalization process (reporting based on standards). EFRAG (The European Financial Reporting Advisor Group) states that overall comparability is only possible when standards require mandatory requirements for all reporting entities (EFRAG, 2021).

One of the current initiatives aimed at standardization of ESG reporting practices conducted by IFRS. In September 2020 IFRS Foundation announced a new standard-setting board, namely the International Sustainability Standards Board (ISSB) that is tasked to develop global ESG disclosure standards. Additionally, the IFRS Foundation has also identified that *“Need for external assurance”* is one of the most important priorities to be considered if a Sustainability Standards Board were to be established by the IFRS Foundation. Therefore, the assurance framework for sustainability information should be similar to that already issued for financial statements. (IFRS Foundation, 2021)

To sum up, we assume that sufficiently specific ESG standards and proper enforcement, we expect that firms respond to a Mandatory ESG reporting by making real changes to their business operations, including their ESG activities and policies.

METHODOLOGY

The authors review archival articles that are related to Mandatory disclosure and its economic and non-economic consequences.

FINDINGS

Four insights emerge from our review. First, ESG disclosure is becoming increasingly regulated and essential to the stakeholders, more aware and sensitive to Environmental, Social, and Governance perspectives. Second, Mandatory ESG disclosure is more complete, accurate, neutral, objective, and comparable than the voluntary disclosure. Third, Mandatory ESG disclosure has beneficial real outcomes toward reporting quality, capital market and firm behavior. Finally, to date, there is no single, internationally defined set of criteria used to evaluate ESG practices, however there are some initiatives aimed at standardization of ESG reporting practices (e.g., IFRS foundation).

CONCLUSIONS

In this study, we first discuss the nature of ESG disclosure and the role of worldwide initiatives to offer reporting regulations for ESG activities. Our study then discusses the drawbacks of voluntary ESG disclosure and the importance of shifting to Mandatory ESG disclosure. Our review highlights that mandatory ESG disclosure has beneficial informational and real effects. Finally, our review focuses on the recent developments toward creating generally accepted framework for ESG reporting and its assurance framework.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The results of this paper contribute to the literature and policy makers. First, by providing evidence on the real outcomes of mandatory ESG disclosure, we contribute to the debate about whether ESG disclosure should be made mandatory. Second, this study has important implications for regulators and policy makers who have already mandated or are considering mandating sustainability or integrated reporting.

REFERENCES

- Dos Santos, P. G., Albuquerque, F., Rodrigues, M. A. B., & Morais, A. I. (2022). The Views of Stakeholders on Mandatory or Voluntary Use of a Simplified Standard on Non-Financial Information for SMEs in the European Union. *Sustainability (Switzerland)*, 14(5). <https://doi.org/10.3390/su14052816>
- Haji, A. A., Coram, P., & Troshani, I. (2022). Consequences of CSR reporting regulations worldwide: a review and research agenda. *Accounting, Auditing and Accountability Journal*. <https://doi.org/10.1108/AAAJ-05-2020-4571>
- Li, Z., & Jia, J. (2022). Effect of mandatory sustainability disclosure announcements: cross-country evidence. *Pacific Accounting Review*, 34(1), 127–155. <https://doi.org/10.1108/PAR-09-2020-0141>
- Liu, L., & Tian, G. G. (2021). Mandatory CSR disclosure, monitoring and investment efficiency: evidence from China. *Accounting and Finance*, 61(1), 595–644. <https://doi.org/10.1111/acfi.12588>
- Krueger, P and Z, Sanutner, D. Y, Tang and R. Zhong. (2021). The effects of mandatory ESG disclosure around the world. Working Papers N, 754/2021. Available at <https://ssrn.com/abstract=3832745>

SUSTAINABILITY ASSESSMENT OF SOLID OXIDE FUEL CELL (SOFC) APPLICATIONS: SURVEY OF PALM OIL MILLS

*Ruhanita Maelah**

Universiti Kebangsaan Malaysia, Selangor

Hawa Hishamuddin

Universiti Kebangsaan Malaysia, Selangor

Amizawati Mohd Amir

Universiti Kebangsaan Malaysia, Selangor

Mohd Nizam Ab Rahman

Universiti Kebangsaan Malaysia, Selangor

***Corresponding Author:** *ruhanita@ukm.edu.my*

ABSTRACT

The objective of this study is to examine the extent of economic, environmental, and social impact assessment of new technology; and to examine the relationship between the sustainability assessment of SOFC on economic performance of palm oil mills. Online survey utilizing questionnaires is used to collect data from mills listed in the Directory of Palm Oil Mills in Malaysia. A total of 313 responses were analyzed. Results show sustainability assessment is highly practiced. Results of hypothesis testing shows economic, environmental, and social assessment has significant positive impact on economic performance.

KEYWORDS: SOFC, sustainability, economic assessment, environmental assessment, social assessment, palm oil.

PURPOSE AND BACKGROUND

The unparalleled trend between the increasing demand and decreasing production of fossil fuels each year has raised concerns regarding the global energy crisis. Dependence on fossil fuel as the main energy source leads to greenhouse gas emissions, subsequently causing global warming, climate change and many other environmental issues. Therefore, alternative green energy sources are needed to realize Malaysia's commitment laid down in the Conference of Parties in Paris to reduce global carbon emission. The application of SOFC fueled by biogas as a stationary power generator is a promising alternative to fulfil this aspiration.

Commitment to sustainability has become an issue of strategic importance among industry players in current competitive environment. SOFC as one of fuel cell technology offers high energy conversion at high operating temperature. SOFC is a development stage in Malaysia but has been used in other countries. Biogas fueled SOFC has great potential in Malaysia as our country is the key

player in palm oil industry, and high organic contents in palm oil mill effluent (POME) is suitable for biogas utilization.

Biogas is utilized for steam generation, electricity production and powering downstream business activities. Electricity production using traditional energy transformation tools such as linking biogas with compression-ignition engine or spark-ignition engine is the most popular application of biogas across Malaysian palm oil mills. The efficiency percentage of electricity conversion produced from these tools is lower compared to fuel cell technology such as SOFC which supply 50-60 percent electrical efficiency. With the ongoing research and development in the field of biogas and SOFC, it is anticipated that self-powered biogas palm oil mills in Malaysia can pilot the SOFC technology. Thus, the application of SOFC fueled by biogas plants at palm oil mills is a promising alternative to fulfill the country's aspiration.

To date, significant effort has been concentrated on developing SOFC as a pollution-free technology. However, the sustainability performance assessment of SOFC in Malaysian setting remains unknown. Hence, there is a need for sustainability assessment prior to the transfer of SOFC applications into practice, to properly communicate the economic, environmental, and social performance of SOFC for stationary power applications to stakeholders. The objective of this paper is to examine the extent of economic, environmental, and social impact assessment of new technology; and to examine the relationship between the sustainability assessment of SOFC on economic performance of palm oil mills. Three hypotheses of this study are as follows:

H1 - There is a positive relationship between the Economic Assessment Practices and Economic Performance.

H2- There is a positive relationship between the Environmental Assessment Practices and Economic Performance.

H3- There is a positive relationship between the Social Assessment Practices and Economic Performance.

METHODOLOGY

This study used quantitative method utilizing survey questionnaires. The population of the study is palm oil mills in Malaysia and the sampling frame is the Directory of Palm Oil Mills. Data collection was self-administered, and questionnaires were distributed online to 600 palm oil mills. The questionnaire items were adapted from previous studies and the measurements are shown in Table 1.

Table 1: Variable Measurement

Variable	No of items	Scale	Source
Economic Assessment	5	Using Likert scale: 1. Not at all 2. To small extent 3. To some extent 4. To moderate extent 5. To a great extent	(Atia et al. 2020). (Hauptmeier et al. 2016) (Strazza et al. 2015).
Environmental Assessment	5		(Atia et al. 2020). (Strazza et al. 2015) (Lee et al. 2015).
Social Assessment Worker	12		(Naghshineh et al. 2020).
Local community Value chain actor	5		
Customer	4		
Economic Performance	16		(Salim et al. 2018)

A total of 313 responses were received, representing 52.17 percent response rate. Statistical Data Analysis was utilized for descriptive analysis and hypothesis testing.

FINDINGS

The results indicate the extent of economic, environmental, and social assessment practices on new technology is high among palm oil mills in Malaysia, as shown in Table 2.

Table 2: Extent of Sustainability Assessment Practices on New Technology

Variable	Mean Score	Mean Range
Economic Assessment to what extent your firm use the economic assessment impact in evaluating new technology	4.127	4.04 and 4.34 Highest: "Identification of Investment cost of the power system" Lowest: "Identification of "Externally provided heat cost"
Environmental Assessment to what extent your firm use the environmental assessment impact in evaluating new technology	4.056	3.63 and 4.20 Highest: "Climate change on human health" Lowest: "Noise"
Social Assessment Worker to what extent the social assessment impact related to worker, local community and society, value chain actor, customer is considered in your company's activities	3.832	1.75 to 4.45 Highest: "The usage of safety and preventive measures and emergency protocols regarding accidents and injuries" Lowest: "The presence of child labour in the organization"
Local community	4.092	3.88 to 4.19 Highest: "The inclusion of local supplier's percentage"

		<i>Lowest: "Organization's efforts in promoting new technology education initiatives in the local community"</i>
Value chain actor	4.182	4.13 -4.29 <i>Highest: "Percentage of local suppliers"</i> <i>Lowest: "Organization's policy and practice regarding the protection of intellectual property lefts"</i>
Customer	3.888	2.82 – 4.43 <i>Highest: "Organization's efforts and measures to ensure the protection of consumer privacy"</i> <i>Lowest: "Percentage of the consumers affected by situations of breach of privacy or loss of data"</i>

The average R-squared for the model constructed is 0.715, which means that the interdependent can explain 71.5 % of the dependent variable, explanatory power can be considered substantial. In this study, path coefficient is significant at a significance level of 5% at threshold T-statistics above 1.96. For P values, the criterion $P < 0.05$ has been used to accept a hypothesis. The results are shown in Table 3.

Table 3: Results of Hypothesis Testing

Hypothesis	Result
<i>There is a positive relationship between the Economic Assessment Practices and Economic Performance</i>	<i>Accepted</i>
<i>There is a positive relationship between the Environmental Assessment Practices and Economic Performance</i>	<i>Accepted</i>
<i>There is a positive relationship between the Social Assessment Practices and Economic Performance</i>	<i>Accepted</i>

CONCLUSIONS

Fuel cell technology promises an alternative energy technology for a sustainable world to produce electricity. Malaysia Fuel Cell Roadmap 2006 stated that SOFC will be used as a power generator by 2030. The application of SOFC fueled by biogas as a stationary power generator is a promising alternative for green energy. Research and development on SOFC design and biogas technology are progressing. In recognition of the importance for sustainability assessment prior the transfer of SOFC applications into practice, this study undertakes efforts at the early stage of SOFC design to examine the relationship between economic, environmental, and social assessment practices of new technology, and the economic performance of SOFC among palm oil mills in Malaysia. The results indicate positive relationship between the variables. The findings provide empirical evidence which

can be used as input to towards governmental policies and managerial decisions towards application of SOFC for stationary power generations.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The conversion of POME to bioenergy can generate additional revenue generated for the palm oil sector and improving the economic viability of managing the product wastage. The conversion efficiency of technology determines the amount of product that can be obtained per unit of input. Since SOFC technology requires high upfront cost and low operating costs, achieving economies of scale is pertinent. Therefore, interest accrued during construction becomes an important feature of future economic viability, thus illustrates the importance of initiative such as lending facilities to fund the upfront cost otherwise borne by oil palm millers. The situation stresses the need for a reliable and cost-efficient supply of biogas that affects the technical and economic feasibility of using SOFC with regards to its quality attributes, its availability and procurement cost.

REFERENCES

- Abdelkareem, M. A., Tanveer, W. H., Sayed, E. T., Assad, M. E. H., Allagui, A., & Cha, S. W. (2019). On the technical challenges affecting the performance of direct internal reforming biogas solid oxide fuel cells. *Renewable and Sustainable Energy Reviews*, 101, 361-375.
- Mehmeti, A., McPhail, S. J., Pumiglia, D., & Carlini, M. (2016). Life cycle sustainability of solid oxide fuel cells: From methodological aspects to system implications. *Journal of Power Sources*, 325(April 2019), 772–785.
- Mota, B., Gomes, M.I., Carvalho, A., Barbosa-Povoa, A. (2015) Towards supply chain sustainability: economic, environmental, and social design and planning, *Journal of Cleaner Production*, 10514-27.
- Saadabadi, S. A., Thattai, A. T., Fan, L., Lindeboom, R. E., Spanjers, H., & Aravind, P. V. (2019). Solid Oxide Fuel Cells fuelled with biogas: Potential and constraints. *Renewable Energy*, 134, 194-214.
- Schöggel, J.P., Baumgartner, R.J., Hofer, D. (2017) Improving sustainability performance in early phases of product design: A checklist for sustainable product development tested in the automotive industry, *Journal of Cleaner Production*, 140, 1602-1617.

THE EFFECT OF CORPORATE GOVERNANCE BEST PRACTICES ON THE QUALITY OF CARBON DISCLOSURES AMONG MALAYSIAN PUBLIC LISTED COMPANIES

*Abbas Abdelrahman Adam**
Universiti Malaysia Terengganu, Terengganu

Zalailah Salleh
Universiti Malaysia Terengganu, Terengganu

Hafiza Aishah Hashim
Universiti Malaysia Terengganu, Terengganu

Wan Zuriati Wan Zakaria
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *abbasadamofficial@gmail.com*

ABSTRACT

This study assesses the effect of adopting corporate governance best practices on carbon disclosure quality provided by firms listed in bursa Malaysia. Unlike other studies that used the individual characteristic measurement to evaluate the corporate governance best practices, we developed a composite index of a group of audit and environmental committees' variables and board of directors' variables (board independence, the board size, board gender diversity, board meetings, audit committee independence, committee size, financial expertise, audit meeting and environmental committee presence at the level of firm's board. Meanwhile, the quality of carbon disclosure was measured by constructing a carbon checklist in accordance with several international and local reporting guidelines. Utilising the content analysis of 72 Malaysian publicly listed firms covering the period of 2015 to 2019 the findings indicated that Malaysian firms which adopted good practise of corporate governance provide higher quality carbon disclosure than poorly governed firms.

KEYWORDS: Carbon disclosure quality, corporate governance, board of directors, audit and environmental committee, carbon disclosure measurement.

PURPOSE AND BACKGROUND

The purpose of this study is to assess the impact of adopting the best practices of corporate governance as described in the Malaysian Code on carbon disclosure quality in addition to evaluating the Malaysian firms' response to international carbon disclosure frameworks and guidelines. Carbon dioxide emissions are the cause of global warming and pose a serious threat to the quality of life on earth. Blame is often directed at corporations, therefore, increasing pressure has been directed on them to report and reduce their carbon emissions (Depoers et al., 2016). As a result, Business response to climate change has changed radically over time, companies tend to take a more constructive stance,

viewing climate change as an opportunity rather than a burden. Further, the financial markets are beginning to reward companies that are ahead of climate change while assigning greater risk to those that lag behind (He et al., 2013). The disclosure of carbon emissions received great attention from investors and regulators around the world. Therefore, there were continuous calls for more information regarding carbon emissions (Ben-Amar and McIlkenny, 2015). According to Chithambo et al. (2020) reported that Companies tend to provide more CO₂ information because the CO₂ emissions generated by their activities put them under close public scrutiny. Tan et al. (2020) indicated that companies participating in carbon emissions trading schemes are reported to offer higher disclosure of carbon information.

Although the number of studies investigating carbon disclosure is increasing, Carbon disclosure is a relatively new concept compared to the broader issue of environmental disclosure and has been studied for many years in many different national contexts (Choi et al., 2013). Indicating the critical need to perform more related studies that explore the potential factors that may affect firms' decision to report such information. Based on this background, the current study aims to investigate the effect of a group of corporate governance variables on the quality of carbon disclosure in Malaysia. To achieve this objective and to build a related theoretical framework this study relied on common theories of agency and legitimacy both theories provide a comprehensive explanation for motivational factors for carbon disclosure. For example, legitimacy theory assumes that company activities must be within the norms and boundaries of their respective communities. In this connection, the activities of companies are disclosed to inform the public about their activities and to justify their actions (Al Fadli et al., 2020).

DATA AND SAMPLE

Carbon disclosure quality is analysed for firms that belong to carbon-intensive industries according to the bursa Malaysia classification. The data was collected manually from 72 listed firms' annual reports covering the period of 2015 to 2019. The disclosure quality was captured based on the disclosure score developed in accordance with international guidelines such as CDP 2018 and GRI 2006. Corporate governance best practices were identified based on the developed corporate governance index.

FINDINGS

The findings reveal a significant positive relationship between adopting corporate governance best practices and carbon disclosure quality provided by firms listed in bursa Malaysia. The study also found strong evidence indicating that carbon disclosure quality has grown in Malaysian during the study period.

CONCLUSIONS

We concluded that the better corporate governance best practices the more firm tendency to provide more carbon information, suggesting that the board of directors besides the formulation of effective board committees such as audit and environmental committees is considered a determinant element that inspires companies to consider climate change when formulating their business strategies as result reporting more information related to climate change and associated risks.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This study contributes to filling the gap in the literature regarding the relationship between corporate governance and carbon disclosure however the study is not without limitations. We defined corporate governance best practices as an effective board, audit and environmental committees therefore, future research to consider to investigate other corporate governance variables when assessing carbon disclosure quality.

REFERENCES

- Al Fadli, A., Sands, J., Jones, G., Beattie, C., and Pensiero, D. (2020). Board Independence and CSR Reporting; Pre And Post Analysis Of JCGC 2009. *International Journal of Law and Management*, 62 (2), 117 -138.
- Ben-Amar, W., & McIlkenny, P. (2015). Board Effectiveness and the Voluntary Disclosure of Climate Change Information. *Business Strategy and the Environment*, 24(8), 704-719.
- Chithambo, L., Tingbani, I., Agyapong, G. A., Gyapong, E., and Damoah, I. S. (2020). Corporate Voluntary Greenhouse Gas Reporting; Stakeholder Pressure and The Mediating Role of The Chief Executive Officer. *Business Strategy and the Environment*, 29(4), 1666-1683.
- Choi, B. B., Lee, D., & Psaros, J. (2013). An analysis of Australian company carbon emission disclosures. *Pacific Accounting Review*.
- Depoers, F., Jeanjean, T., & Jérôme, T. (2016). Voluntary disclosure of greenhouse gas emissions: Contrasting the carbon disclosure project and corporate reports. *Journal of Business Ethics*, 134(3), 445-461.
- He, Y., Tang, Q., & Wang, K. (2013). Carbon disclosure, carbon performance, and cost of capital. *China Journal of Accounting Studies*, 1(3-4), 190-220.
- Tan, D., Gao, S., & Komal, B. (2020). Impact of Carbon Emission Trading System Participation and Level of Internal Control on Quality of Carbon Emission Disclosures: Insights from Chinese State-Owned Electricity Companies. *Sustainability*, 12(5), 1788.

THE IMPACT OF CEO MASCULINITY ON THE EARNINGS MANAGEMENT

*Tamer Elsheikh**

Universiti Malaysia Terengganu, Terengganu

Hafiza Aishah Hashim

Universiti Malaysia Terengganu, Terengganu

Nor Raihan Mohamad

Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *tamer.elsheikh@com.kfs.edu.eg*

ABSTRACT

Masculinity was measured using the facial width-to-height ratio (fWHR) and testosterone hormone levels (TESTN). The present study uses a panel data of 260 corporates listed in Bursa Malaysia over the period from 2009 to 2019 with final sample 2860 observations. Python/code was used to measure fWHR and predict testosterone according to the age of CEOs and fWHR. Panel data analysis with fixed effect model has been utilized to estimate the results. The results reveal that fWHR and TESTN have statistically significant effect on EM. This effect is positive, which indicates that the increasing levels of masculinity of a CEO is associated with higher levels of earnings management. This study uniquely investigates earnings management with CEO characteristics based on biological aspects. Accordingly, it offers novel contributions and new insights to the state of the art and practical implications for investors, board members, auditors, analysts, and academics. Furthermore, the findings contribute to resolve the controversy in the results of prior studies regarding the influence of CEO masculinity on financial reporting quality and some other financial aspects.

KEYWORDS: Masculinity; testosterone, facial width-to-height ratio, CEO, earnings management.

PURPOSE AND BACKGROUND

The quality of financial reporting has been considered as a vital requirement by stakeholders that plays a key role in eliminating information asymmetry and positively influence the decisions of investors (Almaqtari et al., 2021). Further, high quality financial reporting shows caution on earnings smoothing, and loss avoidance, which lead to lessen the information asymmetry between management and investors or capital providers about a company's financial performance, hence improving investment decisions (Chen et al., 2011; Xu et al., 2012). Despite this, there is a failure in the principal function of financial reports in practice, because they are mostly found misrepresented, leading to earnings management, and decreasing users' capacity to make informed decisions (Bajra & Čadež, 2018; Cho et al., 2015). Importantly, CEOs play an unlimited role in influencing financial reporting quality, they

may use their accounting expertise to elevate the quality of financial reporting or involve in earnings management (Gounopoulos & Pham, 2018; Jerman & Novak, 2014).

Based on this background, the present study aims to investigate the relationship between earnings management and CEO masculinity. Bertrand and Schoar (2003) have investigated the effect of managers on firm policies. More recent studies investigated CEO masculinity based on facial masculinity metric by relating this issue to finance and accounting issues (Ahmed et al., 2019; Gong et al., 2020; Kamiya et al., 2019; Kogan et al., 2014; Ku et al., 2021). This study builds on the previous studies to assess whether we can predict earnings management in terms of CEO facial masculinity. This study is also built on the work of (Jia et al., 2014) who advocates that an individual's level of masculinity has an impact on their behaviour. Especially when those in positions of leadership, such as CEOs. Further, the current study follows (Stirrat & Perrett, 2012) who studied the link between facial masculinity and the proclivity to cheat, finding that a highly masculine CEO is more prone than less masculine counterpart to make decisions for his interest, such as utilising earnings management and manipulating tactics, regardless of the company's interests.

METHODOLOGY

Data and Sample

The data was collected from 2009 to 2019, which spans two crises (the global financial crisis of 2008 and the pandemic) with 260 companies were chosen to extract financial and CEO data including nationality, age, date of appointment, educational status, gender, and race. The facial photographs of the CEOs were captured using python software to capture the fWHR effectively. The data are collected for male CEOs. The final sample is 181 corporates with 273 CEOs, and 1,611 years observations.

Variable's Definition and Measurement

Earnings management is measured using Modified Jones Model. Several studies (Lai et al., 2018) used non-discretionary accruals by modified Jones model as a proxy for EM. According to these studies, the composition of total accruals is as follows:

$$\frac{TACC_t}{TASST_{t-1}} = \beta_1 \left(\frac{1}{TASST_{t-1}} \right) + \beta_2 \left(\frac{(\Delta \text{Revenues}_t - \Delta \text{Receivable}_t)}{TASST_{t-1}} \right) + \beta_3 \left(\frac{\Delta \text{PPE}_t}{TASST_{t-1}} \right) + EMMJ_t \quad (1)$$

Where $TACC_t$ is total accruals, $TASST_{t-1}$ represents lagged total assets, $\Delta \text{Revenues}_t$ is the changes in revenues between year t and year t-1, $\Delta \text{Receivable}_t$ is the total receivables in year t less the total receivables in year t-1, ΔPPE_t presents an increase (decrease) in the property plant and equipment at the end of year t, and $EMMJ_t$ is the residual term of the regression, represents the levels of earnings management by discretionary accruals. To examine the level of earnings management, we used the absolute value of the discretionary accruals of Modified Jones Models (Lai et al., 2018).

The fWHR is used as the main proxy for masculinity. There are two calculation methods of this ratio, first, the distance between the left and the right zygion -the cheekbones- (bizygomatic width) divided by the distance between the upper lip and the midpoint of the inner ends of the eyebrows (upper facial height) (Kamiya et al., 2019; McCormick et al., 2008). The second way, some researchers, such as (Ahmed et al., 2019; Jia et al., 2014; Lefevre et al., 2013), measured the upper facial height in a slightly different manner, in that they measure the distance between the upper lip and the highest point of the eyelids. The current study measures fWHR by the distance between the left and right zygion (the cheekbones). Further, following Ahmed et al. (2019), the following regression equation is used to measure the expected level of testosterone:

$$\sqrt{\text{Testosterone}_{it}} = \alpha + \beta_1 \text{fWHR}_i + \beta_2 \log(\text{Age}_{it}) + \varepsilon_{it} \quad (2)$$

Model

The following model is used to estimate the relationship between CEO masculinity and earnings management.

$$\begin{aligned} EMMJ_{it} = & \alpha + \beta_1 \text{CEOmascularity}_{it} + \beta_2 \text{ACCBG}_{it} + \beta_3 \text{CEOturnover}_{it} + \beta_4 \text{CEOrace}_{it} \\ & + \beta_5 \text{Lnassets}_{it} + \beta_6 \text{Performance}_{it} + \beta_7 \text{Lvr}_{it} + \beta_8 \text{Assetturnover}_{it} \\ & + \beta_9 \text{GrowRev}_{it} + \beta_{10} \text{LOSS} + \varepsilon_{it} \end{aligned}$$

FINDINGS

The results present an estimation of fixed effect model for the impact of fWHR as a proxy of CEO facial masculinity on EM, measured by modified Jones model. The results show that fWHR has a significant impact on earnings management (p value $< .05$). This signifies that earnings management exists in companies that have CEOs with a high level of masculinity. This effect is positive indicated by a positive coefficient ($\beta = 0.071$), which indicates that the increasing dimension of fWHR of a CEO, is associated with higher level of earnings management. This is similar to the findings of Jia et al. (2014) and consistent with several studies which noted that wider face associated with aggressive behaviour (McCormick et al., 2008), unethical behaviour (Haselhuhn & Wong, 2011) and sensation seeking (Campbell et al., 2010).

To ensure the robustness and durability of our findings, we use an alternative measure of CEO masculinity (testosterone level). The results provide an estimation of fixed effect model for the impact of testosterone on EM by modified Jones model. The results show that TESTN has statistically significant effect on EM at the significant level of 1% (p value = $0.000 < 0.01$). This effect is positive which is indicated by a positive coefficient ($\beta = 0.018$). This indicates that the increasing levels of TESTN of a CEO is associated with higher levels of earnings management. This is consistent with a wide variety of laboratory studies, which confirm a positive and statistically significant relationship between

testosterone levels and (e.g. aggression, deception skills, increased risk tolerance, sensation seeking, non-interchange trust, and cheating) (Lefevre et al., 2013; Matsumoto & Hwang, 2021).

CONCLUSIONS

This study investigates whether CEO masculinity helps the predicting of earnings management. The face width-to-height ratio (fWHR) and testosterone hormone levels (TESTN) were used to assess CEO masculinity. The Python programme was used to calculate fWHR and forecast testosterone levels in CEOs based on their age. The results demonstrated that CEO masculinity (fWHR and TESTN) has a significant impact on EM, this result is positive, indicating that a CEO with a higher level of masculinity is related to higher levels of earnings management.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This study is the first to look into earnings management with biologically based CEO traits. As a result, it provides new insights and contributions to accounting literature, as well as practical consequences for investors, board members, auditors, analysts, and academics. Furthermore, the findings help to resolve a discrepancy in previous studies' findings about the impact of CEO facial masculinity on financial reporting quality and other financial characteristics. As a result, future research should focus on this topic in a strictly financial setting. Another area of future research that could be explored is the quality of financial reporting and earnings management.

REFERENCES

- Chen, F., Hope, O., Li, Q., & Wang, X. (2011). Financial reporting quality and investment efficiency of private firms in emerging markets. *The Accounting Review*, *86*(4), 1255–1288.
<https://doi.org/10.2308/accr-10040>
- Cho, K., Kwon, K., Yi, H., & Yun, Y. (2015). The Effect of International Financial Reporting Standards Adoption on the Relation Between Earnings Quality and Information Asymmetry in Korea. *Emerging Markets Finance and Trade*, *51*(sup3), 95–117.
<https://doi.org/10.1080/1540496X.2015.1039905>
- Kamiya, S., Kim, Y. H., & Park, S. (2019). The face of risk: CEO facial masculinity and firm risk. *European Financial Management*, *25*(2), 239–270.
- Kogan, A., Alles, M. G., Vasarhelyi, M. A., & Wu, J. (2014). Design and evaluation of a continuous data level auditing system. *Auditing: A Journal of Practice & Theory*, *33*(4), 221–245.
- Ku, X., Ko, J., & Moon, S. (2021). Facial width-to-height ratio association with performances of cadets at the Korea Military Academy. *Cogent Psychology*, *8*(1), 1940053.
<https://doi.org/10.1080/23311908.2021.1940053>

EXPLORING ETHICAL CULTURE IN MALAYSIAN SMALL MEDIUM ENTERPRISES (SMEs)

*Siti Faizah Zainal**

Universiti Malaysia Terengganu, Terengganu

Hafiza Aishah Hashim

Universiti Malaysia Terengganu, Terengganu

Zalailah Salleh

Universiti Malaysia Terengganu, Terengganu

Akmalia M. Ariff

Universiti Malaysia Terengganu, Terengganu

Nor Raihan Mohamad

Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *faizah.zainal91@gmail.com*

ABSTRACT

The purpose of this study is to determine the elements of ethical culture that are being practised in small and medium enterprises (SMEs) in Malaysia and to investigate the obstacles and opportunities that exist in the way of putting ethical culture into practise in SMEs. This research also discovered some ethical dilemmas that are dominant in SMEs.

KEYWORDS: Ethical Culture, Small Medium Enterprise, Religiosity, Manager

PURPOSE AND BACKGROUND

Nowadays, businesses should emphasize more on ethical practices (Fernández & Camacho, 2016). Ethics is rarely discussed in business literature and by SME researchers. Large organizations had more ethics studies than SMEs. SMEs are becoming more important in the global economy (Peprah, Mensah, & Akosah, 2016) and are engines of economic growth and development (D'Imperio, 2012). SME has become a significant contribution towards the national Gross Domestic Product (GDP) (Shanmugam et al., 2012). Small and medium-sized businesses are the economic backbone in most countries (Hye, Lau, & Tourres, 2014; N'Guilla Sow, Basiruddin, Abdul Rasid, & Husin, 2018; Firoozmand, Haxel, Jung, & Suominen, 2015). SMEs have had a big impact on all nations' economies, especially in fast-changing, competitive global markets (Naidoo, Perumal, & Moodley, 2009). In Malaysia, SMEs have created numerous jobs and helped many households cover daily expenses including food, education, housing, and utilities (Department of Statistic Malaysia, 2020). About 97.2% of Malaysian firms are small and medium-sized (1.6% medium, 20% small, 78.4% micro) (Department of Statistic Malaysia, 2020).

Due to local and global company crises, the market demands ethical business practice (Enofe et al., 2015). Most SMEs lack an ethical culture; therefore, fraud is possible (Zainal, Hashim, Mohamed, & Salleh, 2021). As individuals and organizations regularly claim fraud, corruption, bribes, and dishonesty, ethical and moral standards have fallen (Collins, 2012). Malaysia's fraud rate grew from 41% in 2018 to 43% in 2020, the highest in Asia (Zainal et al., 2021). Fraud incidents have harmed firm reputations, demonstrating that business owners do not really value an ethical culture.

According to the ACFE (2018), small firms lack the resources necessary for growth and success. The management health of an organisation can also impact its availability to funding (Fadil & St. Pierre, 2021). Ethics violations can be expensive for small businesses and other organisations (Abiodun & Oyeniya, 2014). According to Fernández and Camacho (2016), researchers have been paying less attention to the ethical issue in small and medium-sized enterprises. Consequently, the focus of this study is on SME business ethics. Since SMEs have never systematically defined their strategy, it is difficult for them to create alluring mission, vision, and values statements (Ates, Garengo, Cocca, & Bititci, 2013).

Therefore, this study explores the limited knowledge of ethical culture elements from managers' perspectives in Malaysian small-medium enterprises. The objectives of this study are to explore the ethical culture elements being implemented in SMEs and the factors that influence the effectiveness of implementing ethical culture elements in SMEs.

METHODOLOGY

In order to understand the experience of an individual and to characterise the basis of a lived phenomenon, this study takes the form of a phenomenological study approach. As a consequence of this, the method, the data, and the outcomes are all qualitative. To learn more about the culture of SMEs, researchers conducted in-person interviews. A script for the interview was established, and a few procedures were carried out to ensure that the interview questions had an appropriate organisational framework. The scripts were validated by three bilingual organisational scholars and accounting practitioners in order to ascertain whether or not there was a lack of terms utilised, whether or not they were unclear, or whether or not they were difficult to understand. As a result, the verified scripts were put to use in a pre-test conducted in SMEs by two different SME players. At the conclusion of the interview session, the scripts were finalised with the knowledge and validity of the SME player's opinions being taken into consideration. For the purposes of this study, the researchers were able to recruit eleven people to take part. Before beginning the interviews, a letter requesting ethical clearance was submitted to and received approval from University Malaysia Terengganu. A digital recorder was utilised for both the registration and the analysis processes. In case the recording equipment broke down and the interview could not be transcribed verbatim, the

responses of the respondents were taken notes. After the interviews were completed, the tape was transcribed to search for any potentially problematic phrases or terms. ATLAS.ti 9.1.3 was used to perform the analysis on the data. It assisted in the coding, categorising, and cross-referencing of the data so that the themes could be discovered.

FINDINGS

From the interview conducted, the SMEs managers are having different views on ethical culture. They believed that ethical culture is a part of the organizational ethical practices. The researchers have found the three primary elements as referred to the previous literature which are formal systems, informal systems, and leadership and there is another element that found to be implemented in Malaysian SMEs, it is religiosity. All the elements are being differentiated with different key aspects which is communication, training, and management to be specifically. However, from all the elements implemented, the key aspect of training in the formal systems elements is not well-implemented in Malaysian SMEs compared to other countries such as Spain (Fernandez & Camacho, 2016).

Therefore, each element of ethical culture being implemented in Malaysian SMEs will be explained in this paragraph. As for the formal systems, it is tangible and provided either in papers or electronics that acted as organisational procedure and policies that direct all parties to achieve its goal. There are only two key aspects in the formal systems are implemented in SMEs which are communication and management. For communication, SMEs have provided the vision, mission, and code of ethics to ensure people in the organisation complied with them in order to achieve the goals set up by the organisation. As for management, it is more likely the formal way on how the organisation managing their company. The SMEs in Malaysia are adherence to standard or bodies, documentation on guidelines, circulation, formal meetings, documentation on job description, performance checklist as the management formal system. As for the elements of informal systems, it acted as organisational norm, values, and behaviours (Craft, 2018). According to Falkenberg and Herremans (1995), informal systems are more dominant compared to formal systems in managing the ethical issues in the organisation. Therefore, for the key aspect of communication, the SMEs are practicing conversation between employees and are using own language in giving information. There is also held a day-to-day learning as training in informal way. The management also held regular meeting but informal and the employees obeys to the unwritten rule provided in the organisation.

Consequently, leadership is a significant aspect of culture, which includes the organisational culture (Trevino & Nelson, 2007). According to prior research, the leader played a crucial role in all three areas (management, communication, and training). However, a number of elements were utilised by the managers or owners of Malaysian SMEs. One of the most significant findings was that setting an example in relation to work or written, or unwritten norms was crucial. Leadership is

regarded as mentoring when a family business is recognised to operate via cooperation and a high level of trust and devotion to their organisation. It emphasises teamwork, confidence, and transparency inside their family business and another new aspect is coaching being implemented in Malaysian SMEs. Hence, religiosity are new elements of ethical culture that are being implemented. Religion and spirituality are key to SME growth. It drives decision-making. This suggests that they prioritise religion above all else. Religion and spirituality make employees honest and trustworthy. Religion also fostered closer relationships between employees within the organisation, provided serenity, and promoted a healthy work-life balance.

Besides that, some ethical issues have been discovered during the interview, hence a few solutions have been made by the managers to encourage ethical practices implemented in the organisation. Therefore, for creating an ethical culture in Malaysian SME's, numerous facilitators and obstacles were identified. For the accelerators, the impact of the family has prompted the organisation to adopt an ethical culture, particularly for family-owned businesses. Client satisfaction is achieved when a customer returns to a business's location on a regular basis and motivates the business's personnel to improve its customer service. As the SMEs were the ones who complied with the regulation, this indicated that the organisation adhered to ethical standards. Regarding the obstacles, the majority of small and micro firms surveyed claimed that adopting an ethical culture presents numerous obstacles. They were as follows: lack of human resources, cash limits, failure of time management, lack of resources, lack of information regarding ethics, short-term focus, and constant need for survival.

CONCLUSIONS

A recent literature review found a need for research on ethical culture difficulties in Malaysian SME's, considering the minimal research on this area. SME managers from various industries have different views on their companies' ethical culture. 11 Malaysian SMEs engaged in semi-structured interviews for three months. This study discovered the variables adopted in SME's, their understanding of ethical standards, ethical concerns in their organization, and the barriers and accelerators for developing an ethical culture within the organization.

SMEs use formal, informal, and leadership components, the survey found. Based on the most significant factors, Malaysian SMEs simply lack formal training. Formal communication and management elements were adopted initially, followed by informal elements and leadership-related communication, training, and management. Their company wanted an ethics code, mission statement, and vision statement. SMEs comply with laws, bodies, and norms. Guidelines, job descriptions, and internal communication were also documented. The minutes of a formal meeting were also recorded. A performance checklist and progress report were used to monitor staff.

All key components were identified and executed for informal systems (i.e., communication, management, and training). Informal communication involves employees conversing and using their own language. Day-to-day learning, informal discussions, and unwritten policies became normalized. Managers set a leadership standard to guide employees toward the organization's goal. They prevented "moral silence," set clear expectations, and encouraged creativity. The selection process emphasized individual accountability, addressed ethical problems, rewarded ethical behaviour, offered performance incentives, and set appropriate goals. Coaching is a new important aspect of leadership. This research found that religiosity is a new ethical component in Malaysian SMEs. However, Malaysian SMEs lack formal training. Malaysians SMEs, lack ethical culture awareness. Lack of human resources, cash constraints, inefficient time management, lack of resources, lack of ethics awareness, short-term emphasis, and the necessity to survive prohibited SMEs from creating an ethical culture. SMEs were encouraged to incorporate ethical culture by a few accelerators, such as family influence. When a consumer returns to a firm, it motivates staff to provide ethical service. As SMEs complies with the regulation, the organization practices good ethics.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This study's findings will have implications for both research and practice. A more comprehensive understanding of business ethical culture in small and medium-sized enterprises (SMEs) that will contribute to the literature. Furthermore, the study's findings will determine the ethical culture elements that contribute to the effectiveness of SME financial reporting quality. As a result, this study will serve as a foundation for future research, at least in terms of the ethical culture attributes of SME comprehension, which underpins the study. In terms of practice contributions, the findings of this study are expected to provide policymakers and practitioners with up-to-date information on the implementation of best practice recommendations for SMEs that aligns with the new Malaysian government's efforts to promote sound ethical practices and combat ethical misconduct in Malaysia.

REFERENCES

- Fadil, N. & St-Pierre, J., (2021). Growing SMEs and internal financing: the role of business practices, *Journal of Small Business and Enterprise Development*.
- Falkenberg, L., & Herremans, I. (1995). Ethical Behaviours in Organisations: Directed by The Formal or Informal Systems? *Journal of Business Ethics*, 14 (2), 133-143.
- Fernández, J. L., and Camacho, J. (2016). Effective Elements to Establish an Ethical Infrastructure: An Exploratory Study of SMEs in the Madrid Region, *Journal of Business Ethics*, 138 (1), 113-131. <https://doi.org/10.1007/s10551-015-2607-3>
- Treviño, L. K., & Nelson, K. A. (2007). *Managing Business Ethics: Straight Talk about How to Do It Right*, (4th Ed.). Hoboken, Nj: Wiley.
- Zainal, S.F., Hashim, H.A., Ariff, A.M. & Salleh, Z. (2021). Research on fraud: an overview from small medium enterprises (SMEs), *Journal of Financial Crime*

FEMALE REPRESENTATION ON BOARDS AND CARBON DISCLOSURE QUALITY AMONG MALAYSIAN PUBLIC LISTED COMPANIES

*Abbas Abdelrahman Adam**
Universiti Malaysia Terengganu, Terengganu

Zalailah Salleh
Universiti Malaysia Terengganu, Terengganu

Hafiza Aishah Hashim
Universiti Malaysia Terengganu, Terengganu

Wan Zuriati Wan Zakaria
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *abbasadamofficial@gmail.com*

ABSTRACT

The growing interest concerning climate change-related risk and the necessity of providing more information related to carbon emissions to the public reflects firms' efforts to contribute to climate change issues. The current study examined the effect of female representation on the board of directors on the quality of carbon disclosure provided by 96 publicly listed firms in bursa Malaysia covering the period of 2015 to 2019. Content analysis of annual reports was used to establish a comprehensive carbon reporting checklist based on several international and Malaysian carbon reporting guidelines; for example, sustainability reporting standards GRI 305 (2016), bursa Malaysia sustainability guideline (2015), sustainability accounting standards board framework CDSB (2019). Accordingly, the carbon reporting checklist is used to assess the quality of carbon disclosure. Female representation was measured as the percentage of women directors on a firm's board, controlling for firm age, firm profitability, firm size, leverage, liquidity and audit quality. There was found to be a positive and significant relationship between female representation on the board of directors and carbon disclosure quality provided, suggesting that the presence of female directors on firms' boards can be seen as a determinant element of carbon disclosure quality.

Keywords Female representation, corporate governance, carbon disclosure quality, carbon-intensive industries, Malaysian code on corporate governance.

PURPOSE AND BACKGROUND

This study aims to evaluate the effect of female representation on the firm board on carbon disclosure quality in addition to assessing the Malaysian firms' reaction to international climate change disclosure frameworks and guidelines. Climate change refers to direct or indirect changes in climate that affect natural systems and human life. Even the most rigorous mitigation measures will not be

able to completely avoid the impacts of climate change in the coming decades. Malaysia is not isolated or exempt from the international system. In recent years, Malaysia, like the rest of the world, has experienced some problems related to climate change such as prolonged drought, water shortages and devastating year-end floods causing a loss of revenue of several hundred million ringgit (Omar and Amran, 2017). Consequently, many parties, such as governments and multilateral organisations, have made efforts to reduce the impacts of climate change on global economies by promoting all parties, especially businesses, to be more responsible about sustainability and concerns about climate change (Ararat and Sayedy, 2019). Corporate reporting and its practices have become an unavoidable priority in business operations worldwide. This trend is driven by global and institutional pressures to provide more information on environmental influences due to the forces of environmental sustainability (Jaaffar et al., 2019).

Although the effect of different corporate governance mechanisms such as board structure on carbon disclosure is well known, the impact of female representation has not been fully explored and the number of research exploring this relationship appears to be limited or rare. Furthermore, most of the relevant research was mainly carried out in developed countries (Liao et al., 2015; Tingbani et al., 2020). Thus, there is a need for academic research should pay more attention to this matter by conducting more studies exploring the relationship between female representation and carbon disclosure quality provided in particular, in developing countries. Based on such background, conducting this study provides a unique opportunity to better understand and assess the influence of female representation on carbon disclosure quality.

METHODOLOGY

DATA AND SAMPLE

The study sample comprises 96 listed firms, which are all traded on bursa Malaysia and classified as carbon-intensive industries firms. The study focuses on carbon-intensive industries: energy, oil and gas producers, building materials, construction and construction. The study period will be limited from 2015 to 2019. Carbon disclosure quality was captured by developing a carbon reporting index (e.g., Prado-Lorenzo et al., 2009; Herold and Lee, 2017). This carbon index is comparatively extended and more comprehensive than the prior index developed by Choi et al., (2013) while female representation was measured by the number of women directors divided by the total number of directors on a company's board (Naveed et al., 2021).

FINDINGS

The study findings indicated that there is a positive relationship between female representation on the firms' board and carbon disclosure quality provided, proposing that female participation

brings diverse views and opinions into the board room resulting in a higher tendency to report more carbon information in the company's annual reports. However, the study confirmed that Malaysian firms' boards are dominated by males at almost 86% of the total sample.

CONCLUSIONS

We concluded that the more female participation on firms' boards the higher the carbon disclosure quality in firms' annual reports. Suggesting that the board of directors along with female participation is considered a determinant element that inspires companies to consider carbon emissions when formulating their business strategies.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The current study contributes to the literature by introducing new empirical evidence about the effect of female representation on carbon disclosure quality from emerging economies such as Malaysia. Moreover, since the carbon checklist was developed following various international and Malaysian carbon guidelines, the findings of this study may be interesting to several related groups such as regulatory bodies to assess or update the existing guidelines. Further, future research needs to investigate and focus on other industries which are less sensitive to carbon emissions to have a full image of the carbon disclosure status in Malaysia.

REFERENCES

- Ararat, M., and Sayedy, B. (2019). Gender and Climate Change Disclosure; an Interdimensional Policy Approach. *Sustainability*, 11(24), 7217.
- Choi, B. B., Lee, D., & Psaros, J. (2013). An analysis of Australian company carbon emission disclosures. *Pacific Accounting Review*, 25 (1), 58-79.
- Herold, D. M., and Lee, K. H. (2017). The Influence of the Sustainability Logic on Carbon Disclosure in the Global Logistics Industry; the Case of DHL, FDX and UPS. *Sustainability*, 9(4), 601.
- Jaaffar, A. H., Alrazi, B., Ooi, S. K., And Shamsuddin, A. (2019). Strategically-Framed Environmental Disclosure Index; A Measurement Approach of Malaysian Public Listed Companies' Corporate Environmental Reporting Practices. *International Journal of Environmental Technology and Management*, 22(4-5), 236-256.
- Liao, L., Luo, L., & Tang, Q. (2015). Gender diversity, board independence, environmental committee and greenhouse gas disclosure. *The British accounting review*, 47(4), 409-424.
- Naveed, K., Voinea, C. L., Ali, Z., Rauf, F., & Fratostiteanu, C. (2021). Board gender diversity and corporate social performance in different industry groups: Evidence from China. *Sustainability*, 13(6), 3142.

INTEGRATED REPORTING, ORGANIZATIONAL COMPLEXITY AND FIRM VALUE: EVIDENCE FROM EGYPT

*Abdellatif Hussein Abogazia**

Universiti Malaysia Terengganu, Terengganu & Kafrelsheikh University, Egypt

Hafiza Aishah Hashim

Universiti Malaysia Terengganu, Terengganu

Zalailah Salleh

Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *abdellatifhussin@gmail.com*

ABSTRACT

Although integrated reporting (IR) has become a global trend for corporate disclosure in many global markets, recent studies revealed that IR is still a new concept in developing countries. Thus, this study investigates the moderating effect of organizational complexity on the relationship between the disclosure level of integrated reporting (IR) and firm value using evidence from Egypt.

KEYWORDS: Integrated reporting (IR), Sustainability, Corporate social responsibility, Organizational complexity.

PURPOSE AND BACKGROUND

Traditional corporate practices and reports have become insufficient to meet stakeholders' different needs and do not adequately reflect the different dimensions of the firm's value at present. There is a need for more disclosure and transparency of quantitative and qualitative information to measure the organizations' success in achieving economic and social goals (Atkins & Maroun, 2015; Singh et al., 2017). Therefore, the interest of companies increased to pay attention to non-financial aspects and activities such as management performance, corporate social responsibility, governance, and corporate sustainability along with their financial performance to achieve their sustainable strategy (García-Sánchez et al., 2013).

Accordingly, other corporate reports appeared, such as corporate social responsibility (CSR), sustainability, and recently integrated reports (IR). IR has become the latest development in a long series of corporate reports that combine financial and non-financial information, i.e., sustainability information. Therefore, the increasing global interest in and awareness of integrated reports, developed by the international integrated reporting framework (IIRF) since its inception in 2013 by the International Integrated Reporting Council (IIRC), has encouraged researchers to explore this topic more deeply (Hsiao et al., 2021; Navarrete-Oyarce et al., 2022). Some previous studies revealed that firms with a high social and environmental responsibility achieved higher share returns than those

with a lower level, highlighting the importance of paying attention to the non-financial aspects of creating value for firms.

Nowaday's environments surrounding companies have become more complex and uncertain (Liu et al., 2015). Furthermore, firms have become more complex regarding the number of subsidiaries, the number of employees, and the size of the company (Chenhall, 2003). IR can decrease information asymmetry in firms with specific characteristics, such as those with a high level of complexity. Firms with high levels of complexity often have high information processing costs in addition to the difficulty, the time wasted, and the high cost of obtaining information through investors (Cohen & Lou, 2012; Stubbs & Higgins, 2014). As a result of this circumstance, for example, information related to asset prices may be delayed significantly according to the information processing costs. Therefore, to overcome the weaknesses in processing information which result from organizational complexity and information asymmetry, companies can provide more comprehensive information to stakeholders by disclosing the information through IR because more complex firms may need a higher and more comprehensive level of disclosure practices (Lee & Yeo, 2016; Luo et al., 2017; Marano & Kostova, 2016).

Although integrated reporting (IR) has become a global trend for corporate disclosure in many global markets, recent studies revealed that IR is still a new concept in developing countries. Thus, this study investigates the moderating effect of organizational complexity on the relationship between the disclosure level of integrated reporting (IR) and firm value using evidence from Egypt.

METHODOLOGY

This study uses a panel regression analysis for a sample of listed firms in the Egyptian Stock Exchange (EGX), representing all non-financial companies on EGX100, from 2017 to 2021, representing a total of 390 firm-year observations. The current study uses content analysis to measure IR and Tobin's Q as a proxy for firm value. This study constructs an IR disclosure index based on the IR framework developed by IIRC (2013), determined based on content analysis of 8 basic elements. Importance and weights for each of the eight elements have been assigned, particularly for each firm and each year in the selected sample. Within each element, a group of sub-items, the total items within the index were 45 items. Based on the method used to measure the IR score, it will be between 0 as the minimum IR score and 45 as the maximum IR score (8 main content elements have 45 sub-components multiplied by the range from 0 to 1 per item). The IR score is equal to the weighted average of the disclosed points.

FINDINGS

The findings reveal a significant positive relationship between the disclosure level of IR and firm value. In addition, we find that organizational complexity positively moderates the relationship between IR and firm value. We concluded that the higher the disclosure level of IR content, the higher the firm's value, and this relationship strengthens in firms with a high level of organizational complexity.

CONCLUSIONS

This study concludes a positive and significant association between the disclosure level of IR and the firm's value. The higher the disclosure level of IR, the greater the firm's value. The result suggests that the benefits of IR disclosure are greater than its costs. Therefore, even if the disclosure of IR requires some practice and experience and costs firms some effort, it adds value for firms in attracting investors and helps stakeholders make their decisions by providing sufficient information about various aspects of companies. In addition, it is also concluded that the positive association between IR and firm value is stronger and more pronounced in firms with a higher level of organizational complexity. This means that IR improves the information environment and decreases information asymmetry in more complex firms, such as those with a large number of subsidiaries, large size, and high intangible assets.

CONTRIBUTION/PRACTICAL IMPLICATIONS

Several practical implications can be derived from the results of the current study. Policymakers and regulators can impose mandatory requirements for integrated reporting in Egypt. It also opens new insights for board members, managers, analysts, and auditors in forming decisions based on annual reports. The present study has a novel insight from a developing country and significant contributions to the extant literature. The study provides empirical evidence from an emerging economy and insight into how integrated reports can benefit complex firms in improving their information environment. It also provides a comprehensive disclosure index to estimate the level of IR.

REFERENCES

- Atkins, J., & Maroun, W. (2015). Integrated reporting in South Africa in 2012: Perspectives from South African institutional investors. *Meditari Accountancy Research*, 23(2), 197–221. <https://doi.org/10.1108/MEDAR-07-2014-0047>
- Cohen, L., & Lou, D. (2012). Complicated firms. *Journal of Financial Economics*, 104(2), 383–400. <https://doi.org/10.1016/j.jfineco.2011.08.006>
- De Villiers, C., Hsiao, P.-C. K., & Maroun, W. (2020). *The Routledge handbook of integrated reporting*. Routledge London.
- García-Sánchez, I. M., Rodríguez-Ariza, L., & Frías-Aceituno, J. V. (2013). The cultural system and integrated reporting. *International Business Review*, 22(5), 828–838. <https://doi.org/10.1016/j.ibusrev.2013.01.007>
- Hsiao, P. C. K., de Villiers, C., & Scott, T. (2021). Is voluntary International Integrated Reporting Framework adoption a step on the sustainability road, and does adoption matter to capital markets? *Meditari Accountancy Research*. <https://doi.org/10.1108/MEDAR-08-2020-0978>

THE MODERATION EFFECT OF CORPORATE LIFE CYCLE ON THE RELATIONSHIP BETWEEN SMA INFORMATION USAGE AND THE CHOICE OF COMPETITIVE STRATEGY: A MULTIGROUP ANALYSIS

*PuZhao**

Universiti Malaysia Sabah, Sabah

Raman Noordin

Universiti Malaysia Sabah, Sabah

Stephen Laison Sondoh Jr.

Universiti Malaysia Sabah, Sabah

***Corresponding Author:** *zhaopu25@gmail.com*

ABSTRACT

This research investigates the moderating role of the corporate life cycle between the SMA information usage and the choice of competitive strategies. We find that comparing with companies in the maturity stage, the product-related information usage by companies in the growth stage is helpful for the choice of differentiation strategy. In addition, comparing with companies in the growth stage, companies in the maturity stage use product-related information and competitor-related information to help choose cost leadership strategies. This research provides managers with more accurate strategic decision-making suggestions, and provides a method for corporate life cycle research, that is, using multi-group analysis (MGA) to compare path differences in variable relationships at different life cycle stages.

Key Words: SMA Information Usage, Competitive Strategy, Corporate Life Cycle, PLS-MGA.

PURPOSE AND BACKGROUND

SMA has maintained a low implementation rate to date (Hadid and Al-Sayed, 2021). To address the promotion of SMA practices, Cadez and Guilding (2008) further refined the framework of SMA practices and finally identified 12 SMA practices. Noordin et al (2015) proposed three dimensions of SMA information based on the results of 12 SMA practices, namely customer-related information, product-related information, and competitor-related information, simplifying the huge framework of SMA practice.

In the current research, we firstly tried to investigate the help of SMA information usage to managers' strategic decision-making, adopting the three-dimensional SMA information model of Noordin et al (2015), focusing on the information provided to managers by the overall SMA practice and investigate whether SMA information usage is helpful for the choice of competitive strategy. Secondly, based on the contingency theory, the current research discusses the difference of the

relationship between the SMA information usage and the choice of competitive strategy in growth stage and maturity stage companies (different life cycle stages). The current research chose Multi group Analysis (MGA) to investigate the moderating effect of corporate life cycle.

METHODOLOGY

The life cycle stage of the company is different, and the strategy, structure, environment, and decision-making style of the company are also quite different (Miller and Friesen, 1984). According to the characteristics of companies in the growth stage, companies already have the ability to obtain and use SMA information, especially the need for products relevant information and customer-related information (Pasch, 2019). For companies in the maturity stage, the company structure is more formal, managers pay more attention to the control of the internal structure and products of the company (Miller and Friesen, 1984). Therefore, companies in the maturity pay more attention to product-related costs to help managers in cost control (Pasch, 2019).

In addition, companies in the growth stage are more suitable for the differentiation strategy, and this conclusion has been confirmed by previous researches (Gan and Wang, 2014). For companies in the maturity stage, since company managers pay more attention to the improvement of profitability, they will focus on cost control and efficiency improvement (Miller and Friesen, 1984). However, according to previous research, companies in the growth stage may also choose the cost leadership strategy to gain competitive advantage (Gan and Wang, 2014). Therefore, it is necessary to balance the SMA information usage and the choice of competitive strategies between companies in the growth stage and those in the maturity stage. The relationship between them can be compared to provide more accurate suggestions for managers. This research makes hypotheses:

H1: The relationship between customer related information usage and the choice of differentiation strategy is significantly higher for growth stage when compared to maturity stage.

H2: The relationship between product related information usage and the choice of differentiation strategy is significantly higher for growth stage when compared to maturity stage.

H3: The relationship between product related information usage and the choice of cost-leadership strategy is significantly higher for maturity stage when compared to growth stage.

H4: The relationship between competitor related information usage and the choice of cost-leadership strategy is significantly higher for maturity stage when compared to growth stage.

FINDINGS

As suggested by Henseler et al. (2016), a difference p-value of path coefficients between the two groups below 0.05 or above 0.95 indicates a significant difference between the path coefficients of the two groups.

Table 1: Results of Hypothesis Testing

Hypothesis	Relationships	Path Coefficients Original		Confidence Interval (95%)		Path Coefficient Difference	P-Value Difference (One-Tailed)	Supported
		Growth	Maturity	Growth	Maturity			
H1	CUS -> DIF	0.429**	0.286*	[0.326,0.521]	[0.152,0.403]	0.143	0.069	No
H2	PRO -> DIF	0.429**	0.223**	[0.325,0.522]	[0.091,0.336]	0.206	0.014	Yes
H3	PRO -> COST	0.244**	0.411**	[0.116,0.359]	[0.314,0.498]	-0.167	0.965	Yes
H4	COM -> COST	0.159**	0.458**	[0.022,0.284]	[0.348,0.553]	-0.299	0.998	Yes

Note: In Henseler's MGA method, the p value lower than 0.05 or higher than 0.95 indicates at the 5% level significant differences between specific path coefficients across two groups.

*p < 0.05, **p < 0.01

From Table 1, we found that compared with companies in the maturity stage, product-related information usage by companies in the growth stage is more helpful for the choice of differentiation strategies (path difference=0.206, p<0.05). Comparing with the companies in the growth stage, product related information usage and competitors related information usage have a positive impact on the choice of cost leadership strategy in maturity stage companies (path difference=-0.167, p>0.95; path difference=-0.299, p>0.95). However, the relationship between the customer information usage and the choice of differentiated strategies did not show significant differences between the two groups.

CONCLUSIONS

This research investigates the differences in the relationship between the SMA information usage and the choice of competitive strategies at different life cycle stages. This research found that compared with companies in the maturity stage, product-related information usage in the growth stage has a more positive effect on the selection of differentiation strategies. As for customer-related information, since the selection of differentiated strategies in both the growth stage and the maturity stage requires attention to customer-related information, this research did not find that the difference of the relationship between Customer-related information usage and the choice of differentiated strategies in these two stages.

For companies in the maturity stage, this research finds that compared with companies in the growth stage, product-related information usage and competitor-related information by companies in the maturity stage is more conducive to the choice of cost leadership strategies.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This research uses a new method PLS-MGA to investigate the differences in the relationship between the SMA information usage and the choice of competitive strategies at different life cycle stages. Firstly, it enriched the research on SMA. Secondly it provides a new method to analyze the moderation effect of corporate life cycle, that is PLS-MGA.

REFERENCE

- Cadez, S., & Guilding, C. (2008). An exploratory investigation of an integrated contingency model of strategic management accounting. *Accounting, Organizations and Society*, 33(7-8), 836-863. doi: 10.1016/j.aos.2008.01.003
- Cescon, F., Costantini, A., & Grassetto, L. G. (2019). Strategic choices and strategic management accounting in large manufacturing firms. *Journal of Management Governance* 23(3), 605-636.
- Gan, S.J., Wang Y. (2014). Research on the Law of Competitive Strategy Conversion Based on the Perspective of Enterprise Life Cycle. *Science and Technology Management Research*, 34(5), 209-216.
- Guilding, C., Cravens, K. S., & Tayles, M. (2000). An international comparison of strategic management accounting practices. *Management Accounting Research*, 11(1), 113-135.
- Guilding, C., & McManus, L. (2002). The incidence, perceived merit and antecedents of customer accounting: an exploratory note. *Accounting, Organizations and Society*, 27(1-2), 45-59.
- Hadid, W., & Al-Sayed, M. (2021). Management accountants and strategic management accounting: The role of organizational culture and information systems. *Management Accounting Research*, 50, 100725.

CLIMATE CHANGE STRATEGIES IN THE TRANSPORTATION SECTOR OF MALAYSIA

*Normajidah Zulkifli Yeo**
Universiti Utara Malaysia, Kedah

Jamaliah Abdul Majid
Universiti Utara Malaysia, Kedah

Nor Atikah Shafai
Universiti Utara Malaysia, Kedah

***Corresponding Author:** *normajidah@yahoo.com.my*

ABSTRACT

Malaysia ratified the Kyoto Protocol in 2002 and it provides avenues for Malaysia to develop sustainably. In 2016, ratification of the Paris Agreement has been made and Malaysia has pledged allegiance to the global collective commitment to cutting climate-altering pollution. The transportation industry is one of the main sectors and shares a big portion of national greenhouse gas (GHG) in Malaysia. According to Bursa Malaysia, transportation includes companies that engage in road transportation, rail transportation, airline, shipping and freight and logistics. The implementation level of climate change strategies was assessed by a rating scheme proposed by Damert and Baumgartner (2018). The climate change strategies comprise governance, innovation, compensation, and legitimation. The finding shows that companies in the transportation sector react to climate change more due to governance objectives.

KEYWORDS: Climate change, transportation, greenhouse gas

PURPOSE AND BACKGROUND

The main objective of this paper is to analyse the climate change strategies in the annual reports and sustainability reports of public listed companies in the transportation sector.

METHODOLOGY

The analysis encompasses climate change strategies in four (4) main objectives which are governance, innovation, compensation, and legitimation. Using 30 public listed companies in the transportation sector as the sample, we conducted a cluster analysis and identify four types of strategies. Future climate change strategies also been reviewed in scholarly papers and news articles.

FINDINGS

The analysis shows that the result for the climate change strategies shows variability among transportation companies. The result shows the main objective of climate change strategies among these companies is driven by the governance strategies.

CONCLUSIONS

As one of the main sectors, transportation contributed a high portion of GHG to the environment. Therefore, this paper addresses public listed companies in the transportation industry report the climate change strategies in their annual report and sustainability report. The strategies comprised governance, innovation, compensation, and legitimation. Governance becomes the main objective of climate change strategies among companies.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This paper presents a comprehensive analysis of the major climate change strategies in the transportation sector and recommends pertinent ways forward to fill the gaps in climate change strategies already implemented.

ACKNOWLEDGEMENT

This research was supported by the Ministry of Higher Education (MoHE) of Malaysia through Fundamental Research Grant Scheme (FRGS/1/2020/SS01/UUM/02/27).

REFERENCES

- Bursa Malaysia Securities Berhad. 2018. Sustainability Reporting Guide. 2nd Ed.
- Damert, M., & Baumgartner, R. J. (2018). Intra-sectoral differences in climate change strategies: Evidence from the global automotive industry. *Business Strategy and the Environment*, 27(3), 265-281.
- Ministry of Environment and Water. (December 2020). *Malaysia's Third Biennial Update Report submitted to the UNFCCC*.
- Ooi, S. K., & Amran, A. (2018). Enabling climate change reporting in Malaysia. *World Review of Entrepreneurship, Management and Sustainable Development*, 14(4), 507.
- United Nations Framework Convention on Climate Change, Conference of Parties. (2015). *Adoption of the Paris Agreement*.

A REVIEW OF OWNERSHIP STRUCTURE AND ACCOUNTING CONSERVATISM

*Omar Marwan Al-Smadi**
Universiti Malaysia Terengganu, Terengganu

Shahnaz Ismail
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *omar.marwan44@yahoo.com*

ABSTRACT

With the quick development of modern corporate theory, conflicts between shareholders and managers became increasingly frequent as the interests of shareholders and management diverged. The agency issue made it difficult for the business and its stockholders to increase their worth. The issues brought on by the agency conflict can be resolved with an acceptable ownership structure and reliable accounting data. As a result, several academics started studying how ownership structure and accounting conservatism are related. In order to offer a theoretical basis for the follow-up study, this article provides a summary of the pertinent literature, focusing primarily on family ownership, institutional ownership, foreign ownership, and ownership concentration. The study has demonstrated that family businesses desire high levels of earning quality and, consequently, high levels of conservatism. Furthermore, institutional ownership has a substantial impact on accounting conservatism, foreign ownership also increases accounting conservatism. Hence, the influence of ownership concentration and ownership structure that is validly balanced can help to mitigate this issue and increase accounting conservatism.

KEYWORDS: Accounting conservatism, Family ownership, Foreign ownership, Institutional ownership, Ownership concentration.

PURPOSE AND BACKGROUND

In order to maintain a cautious approach toward uncertainty, accounting conservatism requires considering all of the economic environment's inherent unpredictability. Accounting conservatism is an important quality feature of accounting information and a fundamental principle in accounting recognition, measurement, and reporting. Not only that, it is also an important quality feature of accounting information and a fundamental principle in accounting recognition, measurement, and reporting. Accounting conservatism is defined by Givoly and Hayn (2000) as "the use of accounting standards that result in the reduction of reported earnings by slower the revenue recognition, faster expense recognition". Although Jordan's accounting rules are continually evolving and getting better, conservatism in accounting has a low interest.

Many organizations choose a more democratic decision-making style in their financial management. The literature research emphasized on the ownership structure as an important component of corporate governance that should be taken into account because of its role in improving firm performance and raising the interests of both stakeholders and management (Al-Matari et al., 2017; Kao et al., 2019; Rouf & Al-Harun, 2011). According to agency theory, corporate governance and control models change significantly between countries due to differences in ownership structures and board composition (Li, 1994).

Ownership structure is an equity stake state formed by nature of the shareholders and the corresponding shares, it represents the ownership arrangements and determines the control structure of a corporation, is the property foundation of corporate governance. The ownership structure of listed companies usually has an impact on financial reporting, the same as the accounting conservatism.

This article will further review the global research on how ownership structure such as, family ownership, institutional ownership, foreign ownership, and ownership concentration, influence accounting conservatism, in order to better understand the links between ownership structure and accounting conservatism.

Family Ownership and Accounting Conservatism

The impact of family ownership on earnings quality is debatable, and it is explained by two competing agency problems: (1) the traditional conflict between managers and owners, and (2) the conflict between controlling and non-controlling shareholders (Ali et al., 2011). Earlier research has shown that family enterprises want high levels of earning quality and, as a result, high levels of conservatism (Ball et al., 2003). On the other hand, conflicts between the firm's dominant shareholders and minority shareholders, can arise. Hence, as family ownership grows, family managers will be less bound by disciplinary forces and may become more entrenched. As a result, more family ownership may result in a lesser quality of earnings (An, 2015). As a result, there is a low level of conservatism.

Institutional Ownership and Accounting Conservatism

Agency conflicts between managers and shareholders can be reduced by having institutional ownership and a majority shareholding. The findings of An (2015), Amos (2016), Alkurdi et al.(2017), and Hajawiyah et al., (2020) suggest institutional ownership has a positive effect on accounting conservatism. This shows that, increasing institutional ownership in corporations will increase the use of accounting conservatism.

Foreign Ownership

The increasing foreign ownership ratios encourage businesses to increase openness and minimize opportunistic managerial accounting mistakes (An, 2015). When analyzing the connections between accounting conservatism and foreign ownership, prior research revealed that foreign capital investors gave preference to equity shares of companies with little information asymmetry. Asiriwa et al.(2019) investigated the impact of ownership structure on accounting conservatism among Nigerian listed companies. The study discovered that foreign ownership and accounting conservatism have a negative but not statistically significant relationship. A study in the Jordanian context was conducted by Alkurdi et al.(2017) to provide evidence of the effect of the ownership structure on the level of accounting conservatism in Jordan, The result shows a positive and significant relationship between foreign ownership and accrual conservatism. The findings are consistent with previous studies (Mohandi & Odeh, 2010; Omar Al-Sraheen et al., 2014; Zureigat, 2011), which found that businesses with higher percentages of foreign ownership contribute positively to improving the quality of financial reports in Jordan. Additionally, it is concluded by (Cheon, 2003; Choe et al., 2005; Smith et al., 2008).

Ownership Concentration

The term "concentration of ownership" describes ownership that is concentrated among a small number of stockholders. They typically hold a sizable portion of the company's shares, allowing them to participate in management and influence financial and operational decisions. The concentration of ownership, however, may have a number of benefits or drawbacks. When ownership is concentrated, especially in developing nations, shareholders who possess the majority of the voting rights also have control over the shares, which gives them an advantage over other shareholders. Even when there is a conflict over control with the minority shareholders, they remain in power (Kiatapiwat, 2010). Additionally, these dominant stockholders typically look out for their own interests by manipulating earnings data (Song, 2015). However, Lskavyan & Spatareanu (2011) argue that ownership concentration improves the performance of the company and aids in the selection of accounting procedures for decreasing managers' opportunistic behaviours, optimizing the use of corporate resources, and boosting investor trust. The relationship between ownership concentration and earnings timeliness has been the subject of several research. El-Habashy (2019) proposed that a higher percentage of ownership results in weaker shareholder participation in management decisions and practices, such as accounting conservatism and a lack of shareholder interest in monitoring the firm's operations.

CONCLUSIONS

Academics are now concentrating on how to solve the agency problem and increase the reliability of accounting data. A comprehensive study of domestic and foreign scholars found that family business owners can lessen agency issues between owners and managers by placing one of their families in top management. They also have a strong motive to maintain their money as long-term investors. According to this point of view, family businesses are less vulnerable to opportunistic behaviour when disclosing results because doing so would damage the family's reputation, business, and wealth as well as the long-term performance of the organization. Previous studies have demonstrated that family businesses desire high levels of earning quality and, consequently, high levels of conservatism.

The majority of studies have reached the same conclusion on the impact of institutional investors on accounting conservatism. In other words, the balance of ownership can increase the robustness of accounting information, and institutional ownership has a substantial impact on accounting conservatism. The reason for this is that most researchers do an empirical analysis by Basu's model. We cannot predict whether using other models can get the same conclusions, so we should utilize alternative methodologies more often for more trustworthy research because we cannot foresee whether adopting different models will result in the same outcomes.

Prior studies showed that foreign capital investors preferred equity shares of companies with less information asymmetry when analyzing the relationships between accounting conservatism and foreign ownership. Additionally, to overcome information asymmetries, keep a watch on opportunistic managerial accounting actions, and boost the openness of financial reports, foreign ownership also increases accounting conservatism. Regarding the influence of ownership concentration, a thorough analysis by both domestic and international scholars revealed that while an increase in ownership concentration will worsen the agency conflict between controlling shareholders and minority shareholders and decrease the conservatism of accounting information, an ownership structure that is validly balanced can help to mitigate this issue and increase accounting conservatism.

REFERENCES

- Al-Matari, E. M., Al-Matari, Y. A., & Mohammed, S. A. S. (2017). Ownership structure, audit quality and firm performance moderating and direct-effect models: An empirical study. *Corporate Board Role Duties and Composition*, 13(1), 28–35. <https://doi.org/10.22495/cbv13i1p3>
- Ali, A., Chen, T.-Y., & Radhakrishnan, S. (2011). Corporate Disclosures by Family Firms. *SSRN Electronic Journal*, 2006(January). <https://doi.org/10.2139/ssrn.897817>
- Alkurdi, A., Al-Nimer, M., & Dabaghia, M. (2017). International Journal of Economics and Financial Issues Accounting Conservatism and Ownership Structure Effect: Evidence from Industrial and Financial Jordanian Listed Companies. *International Journal of Economics and Financial Issues*, 7(2), 608–619. <http://www.econjournals.com>

- Amos, B. I. (2016). the Impact of Institutional Ownership Structure on Earnings Quality of Listed Food/Beverages and Tobacco Firms in Nigeria. *Researchers World : Journal of Arts, Science and Commerce*, 7(1(1)), 20–30. [https://doi.org/10.18843/rwjasc/v7i1\(1\)/03](https://doi.org/10.18843/rwjasc/v7i1(1)/03)
- An, Y. (2015). Does foreign ownership increase financial reporting quality. *Asian Academy of Management Journal*, 20(2), 81–101.
- Asiriwa, O., Akperi, R. T., Uwuigbe, O. R., Uwuigbe, U., Nassar, L., Ilogho, S., & Eriabe, S. (2019). Ownerships Structures and Accounting Conservatism among Nigeria Listed Firms. *IOP Conference Series: Earth and Environmental Science*, 331(1). <https://doi.org/10.1088/1755-1315/331/1/012056>

HALAL BUSINESS RESPONSIBILITY PRACTICES OF MALAYSIAN FOOD SMEs FROM THE STAKEHOLDER THEORY: A CONCEPTUAL PAPER

*Juliana Anis Ramli**
Universiti Tenaga Nasional, Selangor

Hafiza Aishah Hashim
Universiti Malaysia Terengganu, Terengganu

Zalailah Salleh
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *Juliana@uniten.edu.my*

ABSTRACT

The emergence of the Halal certification which is issued by the sole national Halal authority, JAKIM is intended to protect the integrity of food production in fulfilling the religious requirements in food consumption, especially among Muslim consumers. Given that food production is invisible to the sight of consumers, thus a company must adhere to halal-related standards and guidelines in a way to secure Halal certification in this lucrative halal industry. As a halal company has successfully secured the Halal certification, they would no longer worry to comply with the Halal guidelines and may act indifferently towards sustaining Halal certification in the long run for the benefit of Muslim stakeholders (Matulidi, Jaafar and Bakar, 2016). The act of companies sustaining the securement of Halal certification is perceived as indispensable ethical business practice as halal businesses hold significant social responsibility and obligations to society through their business products or services (Aguinis and Glavas, 2013). Hence, this study attempts to conceptually discuss and address the issues of halal business responsibility practices of Malaysian Food SMEs from the stakeholder theory which calls for deliberations based on halal food- and social responsibility-related preceding literature in order to suit the appropriate term of halal business responsibility practices. Future research and ways forwards are further discussed therein.

KEYWORDS: Halal, Business Responsibility, Corporate Social Responsibility, SMEs, Stakeholder Theory.

PURPOSE AND BACKGROUND

Halal is an Arabic word which means 'lawful' or 'permitted'. In the context of food, the term Halal seems inseparable from Muslim consumers as consuming halal food is part of fulfilling religious obligations according to Shariah requirements (Mohamed, Rezai, Samsuddin and Chiew, 2008; Wilson and Liu, 2010). The increasing number of world Muslim population and high purchasing power are major impetus for the rapid pace of development and growth in the halal industry which leads our country being the recognized trailblazer of the global halal hub. Halal industry plays an integral role in

contributing major source of economic nation and it is expected to bring the economic upwards with an estimation of USD 8 trillion by 2030. The significant roles of Halal food companies towards the nation economic and fulfilling religious requirements in food consumption urge Halal food producers to be responsible in not only to secure the Halal certification but able to maintain its Halal-certified status for the long-term for the sake of the well-beings of stakeholders. It is important to note that majority of the Halal food producers are among small-medium enterprise (SMEs) which explicitly denote the attributes of the category of these companies in capability to sustain its Halal-certified status. Given the act of maintaining of Halal status through the compliance of Halal standards and guidelines as determined by the national Halal authority as part of business obligations to the society or so-called as social responsibility practices, hence it calls for strong wills and determination of companies to the Halal pursuant motive. It is important to note that most of the corporate social responsibility (CSR) practices are carried out in the context of large companies and such CSR practices are parallel in nature, which are not associated with the business activities (Aguinis and Glavas, 2012) However, social responsibility practices in the context of SMEs seem rare (Nejati and Amran, 2013) as many small businesses do not tend to report and communicate their social practices with their stakeholders (Spence, 2007). From the Islamic perspective, the act of halal compliance practices in the food production is important as it would involve business to be responsible directly to the business activities (Aguinis and Glavas, 2012) from the upstream towards the downstream of halal food supply chain activities to ensure the halal food integrity. Therefore, maintaining halal status through the compliance of Halal food standards and guidelines as in accordance with the Trade Description Act (TDA) 2011 entails for the halal business to deliver its social responsibility practices which are associated with the Shariah requirements. Hence, this study attempts to conceptually deliberate and address the issues of social responsibility practices in the context of Malaysian SMEs and halal business responsibility practices of Malaysian Food SMEs from the stakeholder theory, in which such deliberation in these issues is still limited in the current literatures especially in the context of Halal SMEs.

METHODOLOGY

Since this study is a conceptual in nature, thus this study employs the review of the systematic literature review (SLR) involving the social responsibility practices- and halal-related preceding literatures.

FINDINGS

No findings could be produced since this paper is carried out based on conceptual discussion.

CONCLUSIONS

The term of halal business responsibility practices might be something new in the current literature, however this paper attempts to address halal food related issues which calls for food producing companies to be responsible in their food production practices. Besides, the discussions of the issues are hoped to provide beneficial deliberations on the roles of food producers for being not only capable to secure the halal certification but also able to maintain the halal status in the food production along the halal food supply chain, in a way to protect the well-beings of Muslim consumers in their food consumption according to Shariah directives.

CONTRIBUTION/PRACTICAL IMPLICATIONS

Most of the businesses perceive that plunge into a business is such a lucrative pursuit and economic-oriented basis, which certain ethical practices seem to be ignored. However, pursuant to the ethical practices in the context of halal food industry is inevitable as it integrates the element of economic and ethical aspects which entails for social responsibility practices through Halal business activities. Being the pioneer of global halal hub, Malaysian halal authority has taken various initiatives to strengthen the halal industry through the issuance of Halal certification and continuous compliance of Halal guidelines among the food companies. These kinds of initiatives are among the ways to acknowledge the functions of food producers are not only to serve their obligation towards the society but to abide by the halal rules and regulations. The halal food business responsibility practices would have several aspects that involve from the upstream towards the downstream of food supply chain activities that are expected that companies are not only able to secure the Halal certification for the short run, but also to ascertain that they could maintain their companies with Halal-certified status as well as the wholesomeness of the food they produced for the consumers.

REFERENCES

- Aguinis, H. and Glavas, A. (2012). Embedded Versus Peripheral Corporate Social Responsibility: Psychological Foundations, *Industrial and Organizational Psychology*, 6, 314–332.
- Matulidi, N., Jaafar, H.S. and Bakar, A.N. (2016). Halal Governance in Malaysia, *Journal of Business Management and Accounting*, Vol. 6(2), 2016: 73-89
- Mohamed, Z., Rezai, G., Samsuddin, M.N. and Chiew, E.F.C. (2008), Halal logo and consumers' confidence: What are the important factors? *Economic and Technology Management Review*. Vol. 3(2008): 37–45.
- Nejati, M. Amran, A. (2013) "Corporate social responsibility terminologies in small businesses: insights from Malaysia", *Business Strategy Series*, Vol. 14 Issue: 1, pp.11-14.
- Wilson, J. A. J., & Liu, J. (2010). Shaping the halal into a brand. *Journal of Islamic Marketing*, 1(2), 107–123.

THE IMPACT OF CONTINGENCY FACTORS ON THE PERFORMANCE MEASURES DIMENSIONS

*Ayman Mohammad Aburumman**
Universiti Malaysia Terengganu, Terengganu

Rosliza Mat Zin
Universiti Malaysia Terengganu, Terengganu

Norazlina Ilias
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *aburumman.ayman@yahoo.com*

ABSTRACT

The purpose of the study to investigate the use of performance measurement dimensions at Jordanian private hospitals in order to develop Conceptual Performance Measurement System (CPMS) framework and to examine the extent of the relationship between contingency factors (strategy, structure, market competition, and an uncertain environment) on the performance measurement system (financial, efficiency, effectiveness, flexibility, and sustainability), in Jordanian private hospitals (JPH).

KEYWORDS: Conceptual Performance Measurement System Framework; Contingency Theory; Smart PLS; Jordan; Private Hospitals

METHODOLOGY

The survey questionnaire was gathered from 187 top managers located in 69 private hospitals in Jordan. The data were analyzed using Smart PLS.

FINDINGS

One of the main findings emerging from this study is the development of a conceptual framework for private hospitals to evaluate their performance. The proposed framework contains both financial and non-financial performance measures used by Jordanian private hospitals. Moreover, the findings show that the performance measures dimensions have widespread use in Jordanian private hospitals. The results provide considerable insight into the influence factors that positively affect the performance measures dimensions to the implementation of a conceptual performance measurement system framework within private hospitals.

CONCLUSIONS

The research concluded that a proposed performance measurement framework is a set of performance measures dimensions namely financial, efficiency, effectiveness, flexibility, and sustainability measures, used by the hospital sector to assess its performance and strategies.

Moreover, it can be deduced that non-financial performance measures are given greater weight in Jordanian private hospitals than financial performance measures. This research has given insight into a number of key issues regard to performance measurement systems and contingency theory.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This study makes a significant contribution to the knowledge of performance measurement systems through the proposed of a performance measurement system framework for the Jordanian hospital sector to better measure and manages their performance. This research contributes to the body of literature looking at issues related to the factors affecting performance measurement system, by providing our understanding of the impact of influences factors on performance measurement dimensions.

REFERENCES

- Buathong, S., & Bangchokdee, S. (2017). The use of the performance measures in Thai public hospitals. *Asian Review of Accounting*, 25 (4), 472-485.
- Franco-Santos, M., Lucianetti, L., & Bourne, M. (2012). Contemporary performance measurement systems: A review of their consequences and a framework for research. *Management Accounting Research*, 23(2), 79-119.
- Gu, X., & Itoh, K. (2016). Performance indicators: healthcare professionals' views. *International Journal of Health Care Quality Assurance*, 29(7), 801-815.
- Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*: Sage Publications.
- Hoque, Z. (2004). A contingency model of the association between strategy, environmental uncertainty and performance measurement: impact on organizational performance. *International Business Review*, 13(4), 485-502.
- Purbey, S., Mukherjee, K., & Bhar, C. (2007). Performance measurement system for healthcare processes. *International Journal of Productivity and Performance Management*, 56(3), 241-251.

WATER DISCLOSURES BY MALAYSIAN HEALTHCARE COMPANIES: EXPLORING THE QUALITY

Noor Afzalina Mohamad*
Universiti Malaysia Terengganu, Terengganu

Zalailah Salleh
Universiti Malaysia Terengganu, Terengganu

*Corresponding Author: noorafzalina@umt.edu.my

ABSTRACT

Healthcare companies in their 2020 and 2021 annual reports and sustainability reports. Most of the sample companies provide general disclosures with lack information on the amount of water usage in each operational site. Very few companies disclose water management policies and the management of water quality. This suggests that water disclosures do not discharge the companies' accountability as disclosures are neither complete nor comprehensive enough and are largely confined to general and narrative statements. This study addresses the paucity of Malaysian water disclosure literature and is one of the few which also examines quality of water disclosure.

KEYWORDS: Water disclosures, Malaysian healthcare companies, accountability, content analysis, annual reports.

PURPOSE AND BACKGROUND

Various types of environmental information are presented in corporate reports, including environmental issues in general and specific environmental information such as climate change, water management, carbon management, waste treatment, soil erosion, and others. Among these, many studies use water as one of the elements to be investigated (see, for example, Adams & Zutshi 2004; Beck, Campbell & Shrivies 2010; Chandok & Singh 2017; Gray 2001; Gray & Milne 2002; Meng et al. 2014). These studies embed a water theme in the analysis of the findings, albeit not focusing specifically on water reporting. Nevertheless, literature suggests that studies on water disclosure provide a similar understanding to environmental reporting that companies are disclosing information for efficiency and business continuity (Jones et al. 2014; Alrazi et al. 2017), to assist investors in their decision-making processes (Barton 2010; CDP 2014), and to satisfy demands by different stakeholders (Burritt et al. 2016).

Water scarcity and increasing population worldwide have resulted in rising water demand from various industries, which exacerbates the need to manage water efficiently (Daniel & Sojamo 2012; Martinez 2015). Furthermore, businesses and investors are recognising the potential physical, reputational, and regulatory risks around water (Morrison et al., 2009). In reducing water risks and

addressing effective water management through policy and management reforms (Daniel & Sojamo 2012), the critical importance of high-quality water-related information to inform decision-making is gaining recognition (Chalmers et al. 2012).

Hazelton (2014) supports the notion that disclosing water-related information is an important practice, particularly in businesses that manufacture products using large volumes of water. He claims that if a company reports sufficient water information, managers can use the information to enhance customers' understanding of the company's water usage. Therefore, water reporting could make a significant contribution to water literacy about products that consume extensive amounts of water.

Environmental pollution studies raise the concern that healthcare residues especially from pharmaceutical companies, may pose a health risk to people (Simazaki et al. 2015). Many global pharmaceutical companies have moved their manufacturing operations from developed countries to Asian countries and in 2019, 59% foreign investment is reported for the Malaysian pharmaceutical industry (Malaysian Investment Development Authority, 2020). This is due to Malaysian lower production costs, easier clinical trials, and socio-economic factors affecting healthcare systems (Malaysian Investment Development Authority, 2013; Saif et al., 2015). A sustained increase in investments from multinational healthcare companies in Malaysia has turned the country into one of the world's largest healthcare producers and exporters (Malaysian investment Development Authority 2019).

However, there are several residues in water from healthcare and pharmaceutical companies that can affect human's health, including pharmacological effluent discharge, municipal wastewater effluent from households and hospitals, inappropriate disposals of expired pharmaceuticals and veterinary drugs runoff from livestock farming (Wee and Aris, 2017; Praveena et al., 2018).

Therefore, the primary motivation for this study is to determine if Malaysian healthcare companies provide complete and quality water disclosure that fulfills their accountability to stakeholders. This study is significant for several reasons. First, most disclosure studies used legitimacy theory to explain extent and quality. In contrast, this study uses a normative approach, by examining water disclosures using accountability framework. The study adopts this in response to Gray (2002). Second, most studies are cross-sectional (Burritt et al. 2016; Lambooy 2011; Linneman et al. 2015). However, this study focuses on a single sector to gain in-depth insights into its water reporting practices (Egan et al. 2015). Finally, this study is conducted in a developing country. Water reporting studies in developing countries remain limited. Corporate disclosure practices are influenced by internal, contextual, and external factors (Haniffa & Cooke 2002). As such, examining environmental disclosures in a developing country will add to the literature as they may be different from disclosures made in developed countries.

METHODOLOGY

In this study, the narrative of water disclosure in annual reports and sustainability reports is examined by the items of water information disclosed as presented in Table 1. The matrix list in Table 1 is developed based on Global Reporting Initiative (GRI) - G4 (2018) and Carbon Disclosure Project (CDP) Water 2016. It is developed based on GRI-G4 (2018) because the GRI is widely regarded as the best known, voluntary framework used by companies globally (Overell et al. 2008). CDP Water (2016) is also being referred because it is published to provide meaningful, systematic, and comparable reporting on water standard corporate practice (CDP 2010)

Table 1: Water Disclosure Items

Items	Based on GRI-G4 (2018)	Based on CDP Water 2016
Physical information	√	√
Administrative Information	√	√
Significant water accounting standard/policy	√	
Breach any regulations	√	√
Compliance external requirements	√	√
Assurance statement		√

There are 22 Malaysian healthcare companies examined in this study. The companies' water disclosures are compared to ascertain changes in disclosure in each category. This comparison allows discussion of any improvement in disclosure and the nature of disclosures by pharmaceutical companies. From this investigation, it can be evaluated whether these companies are discharging their accountability and reporting water disclosures based on the guidelines in GRI-G4 (2018) and CDP Water 2016.

FINDINGS

Most of the sample companies provide general disclosures with lack information on the amount of water usage in each operational site. Very few companies disclose water management policies and the management of water quality. This suggests that water disclosures do not discharge the companies' accountability as disclosures are neither complete nor comprehensive enough and are largely confined to general and narrative statements.

CONCLUSIONS

Do Malaysian healthcare companies disclose water information of sufficient quality to discharge the companies' accountability to stakeholders? This is the question which the present study addressed. The study reveals that the quality of environmental disclosures in Malaysian healthcare companies' are limited. No company in the sample disclosed all water reporting items as prescribed in Table 1.

There is no single company with all disclosures in six water items. Consequently, the study concludes that Malaysian healthcare companies fail to disclose complete and comprehensive water information. Additionally, the findings suggest that water disclosures have a public relations bias and tend to portray companies in a favorable light. This implies a concern for legitimacy, rather than for accountability.

CONTRIBUTION/PRACTICAL IMPLICATIONS

In terms of practical implications, companies interested in disclosing water information might use the findings in this study as reference. The study is also useful for managers to understand and discover the important of water reporting practices to meet the stakeholders' expectations and improve organizational accountability.

To ensure accountability is discharged through water disclosures, Bursa Malaysia can consider imposing specific water reporting requirements. This will be an important first step towards assuring annual report users and stakeholders that corporate water disclosures are of high quality, relevant for a specific industry sector and therefore satisfy users' information needs.

REFERENCES

- Adams, C. & Zutshi, A. (2004), 'Corporate social responsibility: Why business should act responsibility and be accountable', *Australian Accounting Review*, vol. 14, no. 3, pp. 31–39.
- Alrazi, B, Mohd Ali, I. & Mat Husin, N. (2017), 'Board Characteristics, country of origin and the decision to participate in the CDP's water programme', *SHS Web of Conferences*, vol. 36, pp. 1-15.
- Barton, B. (2010), *Murky waters? Corporate reporting on water risk – a benchmarking study of 100 companies*. Viewed 5 July 2015, www.ceres.org/resources/reports/corporate-reporting-on-water-risk-2010.
- Beck, A.C., Campbell, D. & Shriver, P.J. (2010), 'Content analysis in environmental reporting research: Enrichment and rehearsal of the method in a British–German context', *The British Accounting Review*, vol. 42, no.3, pp. 207-222.
- Burritt, R.L., Christ, K.L. & Omori, A. (2016), 'Drivers of corporate water-related disclosure: Evidence from Japan', *Journal of Cleaner Production*, vol. 129, pp. 65–74.
- Carbon Disclosure Project (CDP) (2014). *From Water Risk to Value Creation. CDP Global Water Report 2014*. Viewed 25 June 2016, <https://6fefcbb86e61af1b2fc4-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/000/646/original/CDP-Global-Water-Report-2014.pdf?1470394078>.

CORPORATE INITIATIVES IN ADDRESSING CLIMATE CHANGE AND THEIR CARBON PERFORMANCE: EVIDENCE FROM MALAYSIA

*Jamaliah Abdul Majid**
Universiti Utara Malaysia, Kedah

Norlah Che Adam
Universiti Utara Malaysia, Kedah

***Corresponding Author:** *jamaliah@uum.edu.my*

ABSTRACT

This study examines whether the corporate initiatives in addressing climate change relate with the magnitude of carbon dioxide (CO₂) emitted.

KEYWORDS: Climate change, carbon emissions, carbon performance, CO₂, environmental initiatives, Malaysia.

METHODOLOGY

The analysis focuses on companies listed on Bursa Malaysia from 2011-2020.

FINDINGS

Using multivariate analysis, the results show a positive relationship between the climate change initiatives and the magnitude of CO₂ emitted, suggesting that companies, which undertook the climate change initiatives reported larger CO₂ emissions than that of companies that do not undertake such initiatives. Further analysis of the companies' climate change initiatives and their succeeding carbon performance show no statistically significant result.

CONCLUSIONS

The results of these studies suggest that thus far the climate change initiatives undertaken by the companies examined have no impact on the carbon performance. A possible explanation for the result is that these initiatives represent an early step for companies to reduce their CO₂ emissions and hence in addressing the climate change.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The policy implication of this finding is that regulators need to pay attention to companies that appeared to undertake numerous climate change initiatives yet they reported significant CO₂ emissions without any improvement in their environmental performance.

ACKNOWLEDGEMENT

This research was supported by the Ministry of Higher Education (MoHE) of Malaysia through Fundamental Research Grant Scheme (FRGS/1/2020/SS01/UUM/02/27).

REFERENCES

- Aragón-Correa, J. A., Marcus, A., and Hurtado-Torres, N. (2016). The natural environmental strategies of international firms: Old controversies and new evidence on performance and disclosure. *Academy of Management Perspectives* 30, 24–39.
- Busch, T., Johnson, M., and Pioch, T. (2022). Corporate carbon performance data: Quo vadis?. *Journal of Industrial Ecology* 26(1), 350-363.
- Dahlmann, F., Branicki, L., and Brammer, S. (2019). Managing carbon aspirations: The influence of corporate climate change targets on environmental performance. *Journal of Business Ethics* 158, 1-24.
- Delmas, M., and Blass, V. D. (2010). Measuring corporate environmental performance: the trade-offs of sustainability ratings. *Business Strategy and the Environment* 19, 245-260.
- Haque, F., and Ntim, C. G. (2022). Do corporate sustainability initiatives improve corporate carbon performance? Evidence from European firms. *Business Strategy and the Environment*.

BUSINESS

KELESTARIAN ECO PELANCONGAN: POTENSI INAP DESA DI FELDA TROLAK SEBAGAI PRODUK PELANCONGAN DI MALAYSIA

*Siti Hawa Radin Eksan**
Kolej Universiti Islam Antarabangsa Selangor, Selangor

Noor Raudhiah Abu Bakar
Kolej Universiti Islam Antarabangsa Selangor, Selangor

***Corresponding Author:** *sitihawa@kuis.edu.my*

ABSTRAK

Industri kelapa sawit telah banyak menyumbang kepada Malaysia dan mengubah landskap negara secara ekonomi, sosial dan alam semulajadi. Melalui Kementerian Pelancongan Seni dan Budaya Malaysia (MOTAC) sentiasa berusaha untuk membangunkan potensi ekopelancongan di kawasan luar bandar. Program Inap Desa merupakan program pelancongan berasaskan pengalaman yang telah dilancarkan oleh MOTAC sejak tahun 1995 yang bertujuan untuk meningkatkan penglibatan masyarakat luar bandar dalam sektor pelancongan sekaligus membantu meningkatkan taraf ekonomi mereka. Kajian ini bertujuan untuk meneroka potensi industri kelapa sawit dalam menjadi produk ekopelancongan sekaligus membuka lebih banyak peluang pekerjaan dalam aktiviti pelancongan setempat. Kajian ini juga dilakukan untuk menilai adakah industri kelapa sawit dapat meningkatkan nilai sosial budaya penduduk setempat dan sektor hilirannya dapat membantu dari segi ekonomi pekebun sawit. Kajian dibuat dalam bentuk kualitatif dan cara kutipan data yang digunakan dalam kajian ini ialah temubual, pemerhatian dan analisis dokumen. Temubual separa berstruktur dijalankan secara bersemuka dan dalam talian melibatkan 20 orang pengusaha inap desa atau homestay di Felda Trolak, Perak. Hasil dapatan kajian mendapati, generasi penyambung tidak berminat untuk menjadi peneroka. Secara umumnya para informan bersikap positif dan menunjukkan sokongan dalam usaha menjadikan industri kelapa sawit sebagai produk ekopelancongan. Tambahan pula, ekopelancongan dapat menyumbang kepada pengkalan spesis hidupan. Sektor ekopelancongan juga dapat membantu dari segi sosioekonomi penduduk setempat. Kajian ini dapat dilanjutkan secara lebih mendalam dan meluas agar industri kelapa sawit ini dapat diperkasakan terutamanya oleh golongan belia dengan memanfaatkan penggunaan teknologi yang semakin canggih.

KATA KUNCI: Industri kelapa sawit, Ekopelancongan, Sosioekonomi, Sosial budaya, Generasi muda.

TUJUAN

Kajian ini bertujuan untuk meneroka potensi industri kelapa sawit dalam menjadi produk ekopelancongan sekaligus membuka lebih banyak peluang pekerjaan dalam aktiviti pelancongan setempat. Kajian ini juga dilakukan untuk menilai adakah industri kelapa sawit dapat meningkatkan nilai sosial budaya penduduk setempat dan sektor hilirannya dapat membantu dari segi ekonomi pekebun sawit.

LATAR BELAKANG

Industri kelapa sawit telah banyak menyumbang kepada Malaysia dan mengubah landskap negara secara ekonomi, sosial dan alam semulajadi. Disebabkan industri kelapa sawit mempunyai potensi yang besar, usaha dan penglibatan dari banyak pihak diperlukan bagi memastikan prospek industri ini kekal cerah. Kementerian juga sentiasa berusaha memperluas pasaran serta mempelbagaikan produk berasaskan sawit. Walaubagaimanapun, golongan generasi muda perlu diberi perhatian kerana mereka yang akan bertanggungjawab dalam mengusahakan tanaman kelapa sawit agar kekal menjadi komoditi penting untuk negara.

Program Inap Desa merupakan program pelancongan berasaskan pengalaman yang telah dilancarkan oleh MOTAC sejak tahun 1995 yang bertujuan untuk meningkatkan penglibatan masyarakat luar bandar dalam sektor pelancongan sekaligus membantu meningkatkan taraf ekonomi mereka (Pelancongan Malaysia, 2016). Memandangkan destinasi pelancongan ini terletak di pinggir bandar atau luar bandar dan tidak mempunyai perkhidmatan penginapan seperti hotel, resort dan chalet, masyarakat kampung telah mengambil inisiatif untuk menyediakan kemudahan penginapan di kawasan mereka. Walaupun Pengusaha Inap Desa mempunyai pengetahuan yang sedikit mengenai industri pelancongan, tetapi mereka mempunyai semangat untuk bersama-sama memajukan industri ini dengan bantuan dari kerajaan dan juga sektor swasta (Suhartiningsih et al, 2020).

Ekopelancongan berasal dari perkataan Bahasa Inggeris, ecotourism, yang umumnya berkisar kepada pengembaraan alam sekitar yang bertujuan menikmati dan menghayati pengalaman alam semula jadi dan kebudayaan (Weaver, 2001). Ekopelancongan boleh ditakrifkan dengan lebih terperinci sebagai aktiviti-aktiviti yang membawa pelancong lebih dekat kepada alam semula jadi dengan cara mengambil bahagian, dihibur dan merasa keseronokan mempelajari, melawat dan menemui sesuatu yang baru berasaskan alam semula jadi. Pelancongan lestari membawa maksud sumber-sumber pelancongan semula jadi termasuk ekopelancongan ini dipulihara untuk penggunaan yang berterusan pada masa akan datang tanpa menjejaskan peluang masyarakat masa kini untuk mendapat manfaatnya (Honey, 2008).

Oleh yang demikian, kajian ini bertujuan untuk meneroka potensi industri kelapa sawit dalam menjadi produk ekopelancongan sekaligus membuka lebih banyak peluang pekerjaan dalam aktiviti

pelancongan setempat. Hal ini menjadi salah satu usaha dalam menarik minat generasi muda untuk melibatkan diri dalam industri kelapa sawit. Kajian ini juga dilakukan untuk menilai adakah industri kelapa sawit dapat meningkatkan nilai sosial budaya penduduk setempat dan sektor hilirannya dapat membantu dari segi ekonomi pekebun sawit.

KAEDAH

Kajian ini menggunakan kaedah kualitatif dengan membuat kajian perpustakaan dan juga temubual bersama 20 pengusaha inap desa di Felda Trolak, Perak.

DAPATAN

Secara umumnya para informan bersikap positif dan menunjukkan sokongan dalam usaha menjadikan industri kelapa sawit sebagai produk ekopelancongan. Tambahan pula, ekopelancongan dapat menyumbang kepada pengekalan spesis hidupan.

KESIMPULAN

Secara keseluruhan didapati, penduduk yang terlibat dalam mengusahakan inap desa bersetuju bahawa kajian mendapati industri inap desa ini mempunyai potensi yang bagus untuk dijadikan sebagai produk ekopelancongan. Pembangunan inap desa yang berada di luar bandar sekaligus dapat membantu dalam melestarikan alam sekitar. Kajian ini diharap dapat dilanjutkan secara lebih mendalam dan meluas agar industri kelapa sawit dan inap desa ini dapat diperkasakan terutamanya oleh golongan belia dengan memanfaatkan penggunaan teknologi yang semakin canggih. Pembangunan perusahaan kelapa sawit dan industri inap desa juga diharap dapat menambah peluang pekerjaan di kawasan setempat sekaligus dapat mengurangkan kadar pengangguran dan melahirkan masyarakat yang berwibawa.

SUMBANGAN/IMPLIKASI PRAKTIKAL

Hasil kajian ini dapat memberi saranan untuk pekebun kelapa sawit untuk meningkatkan aktiviti ekonomi mereka melalui ecopelancongan. Ia juga akan memberikan manfaat sosial dengan mewujudkan perpaduan yang lebih erat. Selain itu sumbangan kepada kelestarian alam yang mana perkembangan dan pembangunan inap desa turut meningkatkan kualiti alam sekitar dengan menggalakkan pemuliharaan alam semulajadi dan meningkatkan tahap kebersihan kawasan sekitar.

RUJUKAN

- Dinah Nabilah Mokhtaruddin (2014). Homestay: Potensi Perniagaan Kepada Koperasi. Pusat Pengurusan Perniagaan. Dimensi KOOP, Maktab Koperasi Malaysia. Bil. 43/2014.
- Kementerian Kewangan Malaysia (2020). Tinjauan Ekonomi 2020. Belanjawan 2020. Diakses pada 25 April 2022 di <https://www.parlimen.gov.my/ipms/eps/2019-10-11/CMD%2026.2019%20BM..pdf>

Kementerian Pelancongan Seni dan Budaya Malaysia (MOTAC) (2021). Garis Panduan Program Pengalaman Homestay Malaysia.

Kementerian Pelancongan Seni dan Budaya Malaysia (MOTAC) (2022). Laporan Statistik Program Pengalaman Homestay Malaysia (Mac 2022). Diakses di <https://www.motac.gov.my/muat-turun/send/10-homestay/65-laporan-statistik-program-pengalaman-homestay-malaysia>

Marshall, C., & Rossman, G. B. (1989). *Designing qualitative research*: Newbury Park, CA: Sage

Pelancongan Malaysia. (2016). Laporan Tahunan 2016 Tourism Malaysia. Dimuat turun pada 19 April 2022.

A CONCEPTUAL MODEL FOR THE ADOPTION OF GREEN BUILDING TECHNOLOGY IN THE CONSTRUCTION INDUSTRY

*Md Shaharul Islam**
Universiti Putra Malaysia, Selangor

Abu Bakar Sade
Universiti Putra Malaysia, Selangor

Syed Shah Alam
Universiti Kebangsaan Malaysia, Selangor

Md. Uzir Hossain Uzir
Universiti Malaysia Terengganu, Terengganu

*Corresponding Author: pbs19104038@grad.putrabs.edu.my

ABSTRACT

The construction industry is a significant contributor to the economy in most countries, and it plays a vital role in every nation's economic growth around the world. However, this sector has been identified as the main contributor to environmental pollution because of its use of conventional building materials in its building projects. The adoption of building technology is playing a critical role in providing a healthy environment in the construction industry. The developing countries GBT adoption rate is slower compared to the developed nations. In response, this study presents key factors that influence the adoption of green building technology in the construction industry by integrating, the Theory of Planned Behavior (TPB) and the Technology-Organization-Environment Model (TOE). The theory of TPB with the theory of TOE models yields a conceptual framework for the adoption of green building technology (GBT) in the Bangladesh construction industry to influence the understanding of a developer's decision to adopt GBT. The proposed conceptual model can provide certain grounds for understanding GBT adoption intention behavior to their current and future projects. This study also contributes to expanding the body of knowledge in the green building literature.

KEYWORDS: Adoption theories, Awareness of environmental issues (AEI), Perceived GBTs advantage (Ad), Top management leadership(TML), Green building technology(GBT).

PURPOSE AND BACKGROUND

Adoption is an important consideration in any industry. Adopting green building technologies (GBTs) has attracted a lot of attention around the world because it has the potential ability to deal with the bad things that construction can do to the environment and contribute to sustainable development. The building sector is put under pressure as a result of the world's fast population growth and rapid

urbanization, which call for more physical constructions to meet people's need for shelter (Anzagira et al., 2019). UNDESA (2022) estimates the global population at 8.5 billion in 2030, 9.5 billion in 2050, and a projected global population of 10.4 by 2100. According to Wang et al. (2019), strategies to promote GBT adoption have been done around the world, but they are scarce in developing countries such as Bangladesh. Currently, transitional energy consumption and deforestation are creating a significant global sustainable development problem, and the construction industry is the main contributor to these issues (He et al., 2017). According to previous statistics, this industry is the most significant contributor to energy consumption (40%) and overall greenhouse gas (GHG) emissions (30%) (Darko, 2019; Li et al., 2019). In addition to radical lifestyle and behavioral changes being promoted and accepted worldwide, the global energy demand of the construction industry and the associated emissions of GHGs will be more than double by 2050 (Berardi, 2017). As a result, green building has been enthusiastically embraced by many governments and pushed as a technique for decreasing the negative environmental consequences of the construction sector (Shi et al., 2017). In addition, the Air quality report IQAir (2022) stated that Bangladesh is the most polluted country in the world. It reflects a severe environmental threat to nature and the ecological issue in the manufacturing industry. The field of environmental issues has been growing since the early 1960s (Zhang et al., 2019). To solve these problems, people began to investigate the construction industry, moving away from conventional building and toward the social, economic, and environmental elements of sustainable development (Yin et al., 2018).

Therefore, the factors influencing green building technology adoption in the construction industry in Bangladesh are much needed to narrow down the practical gaps. First, the previous study has shown that many theories are used in green building adoption from different perspectives. There is no specific theory in the construction industry. Therefore, this study aims to employ the theory of technology-organization-environment (TOE) (Tornatzky & Fleischer, 1990), and the theory of planned behavior (TPB) (Ajzen, 1991) in the context of GBT adoption in the construction industry from the developer perspective in Bangladesh. Second, most developer companies are using traditional building technologies to build their projects. There is a lack of awareness and professionals to use advanced technology. There is an urgent need for empirical research to help this industry. Therefore, this paper highlights the advanced technology for the development of green buildings.

This study aims to propose a conceptual framework for the construction industry in Bangladesh to enhance the application of GBTs in their current and future projects. The integration of the components from the theory and framework produces a conceptual model to aid in understanding the developers' company's top management decision to adopt GBTs in the construction sector. The validity of the proposed framework in the context of Bangladesh will be tested considering the

predictive ability of three assumed predictors of intention to adopt GBTs: attitude toward GBTs practice, subjective norms (SN), and perceived behavioral control (PBC), and also the TPB model is extended by including three additional predictor variables, top management leadership(TML), awareness of environmental issues (AEI), and perceived GBTs advantage(Ad) in this model.

METHODOLOGY

This study adopted a systematic literature review to explore the integrated theory of planned behavior(TPB), and theory of technology-organizational-environmental(TOE), and their application to the implementation of GBT adoption in Bangladesh. Through the discussion, this study proposed a testable conceptual framework to promote the adoption of GBTs in the construction industry. Here, the authors reviewed and evaluated over 263 publications in the literature review section based on prior extensive studies. The total procedure followed the suggested stages for conducting an SLR(Hart, 2001): (a) identifying sources of information, (b) identifying publications, and (c) identifying item reviews. This systematic search approach helps researchers to examine research findings in an unbiased manner by gathering literature sources from dependable and eminent electronic research databases while ensuring the objectivity of the research (Govindan et al., 2021). The authors develop a search strategy to identify relevant literature and started with a list of important databases, including Google Scholar, Science Direct, Scopus, SpringerLink, Sage, MDPI, Wiley Online Library, WoS (Web of Science), and Emerald. Using different types of databases, we were able to compile a complete list of relevant peer-reviewed articles.

All of the articles, we classified into the four categories listed below: (a) key terms; (b) unit of analysis; (c) technique (conceptual vs. empirical); and (d) theory application. The screening of publications was done by focusing on their content relevance by reading their abstracts and in certain circumstances reading the full articles. The boundaries for our systematic review method were also defined by inclusion and exclusion criteria. Some aspects of the reviews were primarily focused on the managerial or organizational domain. This was followed by a desktop search that yielded the necessary articles from these publications. A total number of 367 papers were identified and taken through a filtering process. We discovered that 106 articles were related to our study topic, and used for this study. Hence, this paper concentrates on the review, extraction, and making conclusions of 106 filtered articles extracted from the literature and used to develop the conceptual framework.

CONCLUSIONS

This study aims to investigate the developers' behavioral intention of adopting GBTs in the Bangladesh context in the construction industry. In the study, awareness of environmental issues, perceived GBTs advantage, and top management leadership is included as the antecedents of attitudes toward adopting GBTs, and subjective norm. The findings have proven the robust and predictive power of the

proposed theoretical framework. The literature reviewed in this paper supports the propositions suggested by the conceptual model. The same conceptual model presented in this article may be used in various kinds of technologies to investigate an individual's behavioral intentions to use GBTs.

More research work is required on the transition process organizations undergo when adopting GBTs. Whilst the conceptual model in this paper proposed that the intention of an organization to use GBTs depends on the attitude taken by them, their management leadership, the available benefits of GBTs, and their organizational belief system, more research is required on the process of traditional construction to green building technology.

CONTRIBUTION/PRACTICAL IMPLICATIONS

Theoretical contributions

This research has been able to make several contributions to the body of knowledge on Behavioral Intention (IB) in an environment where air pollution levels are high. First, it proposed the relationship between AEI, Ad, TML, ATT, SN, PBC, and IB. The findings of this study have provided valuable knowledge concerning various factors that influence purchase behavior in respect of green building technology in the Bangladesh context. Hence, from the theoretical point of view, this study provided a clear understanding of how the factors studied influence the adoption of GBTs. Second, this research can serve as a reference to examine the applicability and validity of the TPB and TOE integrated model in the field of construction developers' behavior in the context of adopting GBTs in Bangladesh. It is therefore recommended that all interested parties and GBT authorities refer to the integrated model.

Third, the developed model was considered a valuable extension of the TPB and TOE model in the green construction context, it expands its usage to the context of a developing country. Most of the studies that have utilized the proposed model to investigate the issue of green construction have been conducted in developed regions. Therefore, this research aimed to examine the applicability of the proposed model in Bangladesh, which is a developing country with a high risk of air pollution.

Fourth, the proposed framework contributes to the existing literature on sustainable development as it includes a framework examining the relationships among the important variables and intends to adopt GBTs, which may help decision makers to consider these factors in their development plans and, in turn, accelerate the adoption of GBT in Bangladesh.

Practical Contributions

The results of the proposed framework of this study may be useful to consultants, contractors, and high-ranking government officials in Bangladesh and elsewhere in encouraging building projects to take a more green and sustainable approach. This paper serves as a valuable resource for anyone working on green building projects and also for those who want to learn how to effectively sell their

green building services and how organizations may embrace green building technologies more quickly. Furthermore, this framework would assist policymakers in regulating the development plans, which may stimulate GBTs practice in Bangladesh. Finally, it would augment the perception of both construction practitioners and academicians of green building adoption and accomplishment while leading the stakeholders to the rapid implementation of green building technologies in the construction industry.

REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Anzagira, L. F., Duah, D., & Badu, E. (2019). A conceptual framework for the uptake of the green building concept in Ghana. *Scientific African*, 6, 191-202. <https://doi.org/10.1016/j.sciaf.2019.e00191>
- Berardi, U. (2017). A cross-country comparison of the building energy consumptions and their trends. *Resources, Conservation and Recycling*, 123, 230-241.
- Darko, A. (2019). *Adoption of green building technologies in Ghana: Development of a model of green building technologies and issues influencing their adoption* [Hong Kong Polytechnic University].
- Govindan, K., Shaw, M., & Majumdar, A. (2021). Social sustainability tensions in multi-tier supply chain: A systematic literature review towards conceptual framework development. *Journal of Cleaner Production*, 279. <https://doi.org/10.1016/j.jclepro.2020.123075>

GREEN SERVICE QUALITY, GREEN CORPORATE IMAGE, GREEN CUSTOMER SATISFACTION AND GREEN CUSTOMER LOYALTY OF HIGHER EDUCATIONAL INSTITUTIONS

*Siti Falindah Padlee**

Universiti Malaysia Terengganu, Terengganu

Dania Qistina Balqis Muhammad Hanif

Universiti Malaysia Terengganu, Terengganu

Fathilah Ismail

Universiti Malaysia Terengganu, Terengganu

Noor Zatul Iffah Hussin

Universiti Malaysia Terengganu, Terengganu

Marhana Mohammed Anuar

Universiti Malaysia Terengganu, Terengganu

Siti Nur Atikah Zulkiffli

Universiti Malaysia Terengganu, Terengganu

Nur Amalina Mohamad Zaki

Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** siti.falindah@umt.edu.my

ABSTRACT

This research aims to find the relationship between the variables of green service quality, green corporate image, green service satisfaction that leads to the green services loyalty. At present, environmental issues attract the attention of academics and professionals around the world. In the academic field, this interest is even greater because of the considerable quantities of water and energy consumed by the students in their university campuses as well as environmental degradation that this field can cause with lack of education and awareness on the environmental issues. This study's survey of students at Universiti Malaysia Terengganu reveals insights about their view on the green higher educational institutions. The majority of students appreciate green services, and consider them important for the image of the university and as an essential component of the campus environment. A total number of 160 students of Universiti Malaysia Terengganu were respondents for research with the range between 18 years old until 30 years old that comes from all faculties. The questionnaire had been distributed through digital form of Google Forms. Multiple regression was used to test for the relationship between the green services quality, green corporate image, green services satisfaction towards the green services loyalty. The results of this research may reflect the whole image of the green services provided by higher educational institutions in Malaysia. For future studies, researchers

may collect larger samples at different type of universities over a longer time period for a better exposure.

KEYWORDS: Green service quality, green corporate image, green service satisfaction, green service loyalty

PURPOSE AND BACKGROUND

As the students spend their most of the time at the institution, they might be one of the electricity consumer that consumes a lot of this kind of energy throughout the day as according to Tan et.al (2018), high usage of resources such as water, electricity, and gas, usage of wrong recycling practices, usage of environmentally harmful chemical products and careless handling of resources and materials in general. They might over-use the usage of water in the toilet or even do not practice any recycling method when throwing their unwanted waste. The knowledge and the presence of green services are not widely spread are one of the problem that need to be discovered. As supported by Lee and Cheng (2017), there is no in-depth research has yet to be carried out regarding the lack of proper service quality scale for green institutions. Since there is a lack on it, it is quite hard to proceed the research without proper judgement from the previous studies and this might be a problem to the current researcher that may proceed with the same idea and issues. Although the number of individuals to consume green services has increased in the last few years, there is little evidence of studies to support the consumption of green services has increased (Joshi and Rahman, 2015). Therefore, it is important to understand the conditions under which the consumer level of environmental knowledge can influence the continuum satisfaction-trust-loyalty towards green offers of knowledge, as suggested by previous research (Singh and Verma, 2017). Thus, the Research objectives include:

1. To determine the relationship between the green service quality towards green services satisfaction
2. To determine the relationship between the green corporate image and green services satisfaction
3. To determine the relationship between green services satisfaction and the green services loyalty

METHODOLOGY

The sample of the study is among the students of Universiti Malaysia Terengganu. These students are selected and chosen because of certain reasons which is the first one, they might have knowledge on the green services since they use the service of HEIs and in the meantime, they are understood of the environmental issues. A total of 10,461 student population are being identified and out of that total, 160 respondents are needed for the continuity of this research. According to Hair et.al (2010), the least or minimum sample that is needed for research is 98 and the total of 160 respondents is already sufficient. The questionnaire comprises of five sections A, B, C, D and E. Section A asked the respondent questions regarding green service quality, Section B for the green corporate image, section C for the green customer satisfaction and for Section D stands for the green customer loyalty

and the last one is Section E represent the respondent's biographical information such as age, gender, marital status and race. The questionnaire is design based on the study's research model by using format of a Likert scale item. The data was analysed by using Statistical Packaging for Social Science (SPSS) which involved the analysed of the descriptive and inferential analyses.

FINDINGS

The findings show that all hypotheses of the study are supported.

Relationship	Hypothesis	Results
Green service quality and green service satisfaction	H1	Supported
Green corporate image and green service satisfaction	H2	Supported
Green service satisfaction and green service loyalty	H3	Supported

CONCLUSIONS

The knowledge and concerns of every student on green services is very important in order to promote sustainable development. When students are satisfied with green services this could increase the green corporate image of HEIs and in the meantime, students are being loyal to their educational institutions.

CONTRIBUTION OF THE STUDY

This study has tested the relationship between green service quality, service satisfaction, green corporate image and services loyalty from the perspective of higher educational institutions.

REFERENCES

- Tan, B.C., Khan, N. and Lau, T.C. (2018), "Investigating the determinants of green restaurant patronage intention", *Social Responsibility Journal*, Vol.14No.3, pp.469-484.
- Lee, W. H., & Cheng, C. C. (2018). Less is more: A new insight for measuring service quality of green hotels. *International Journal of Hospitality Management*, 68, 32-40.
- Joshi, Y., & Rahman, Z. (2015). Factors affecting green purchase behaviour and future research directions. *International Strategic management review*, 3(1-2), 128-143.
- Singh, A., & Verma, P. (2017). Factors influencing Indian consumers' actual buying behaviour towards organic food products. *Journal of cleaner production*, 167, 473-483.

THE IMPACT OF EXTERNAL AND INTERNAL FACTORS ON E-WASTE MANAGEMENT PRACTICE IN MALAYSIA: THE ROLE OF ECO-EFFICIENCY STRATEGY

*Hafizah Abd-Mutalib**
Universiti Utara Malaysia, Kedah

Che Zuriana Muhammad Jamil
Universiti Utara Malaysia, Kedah

Rapiah Mohamed
Universiti Utara Malaysia, Kedah

Nor Atikah Shafai
Universiti Utara Malaysia, Kedah

Saidatul Nurul Hidayah Jannantun Naim Nor Ahmad
Universiti Utara Malaysia, Kedah

***Corresponding Author:** amhafizah@uum.edu.my

ABSTRACT

The purpose of this study is to examine the impact of external factors such as government regulations and customer expectations, and internal factors comprise top management's commitment and firm's resources on firm's e-waste management practices. The study also investigates if an eco-efficiency strategy plays a significant mediating role in strengthening such impacts.

KEYWORDS: E-waste, eco-efficiency strategy, waste from electrical and electronic equipment (WEEE).

PURPOSE AND BACKGROUND

The technological era has urged business organizations to utilize modern gadgets and appliances in their daily activities. A more intense scenario was observed when the world was hit by the Covid19 pandemic when everyone needed to work from home. Since then, the usage of gadgets and electronic devices has rapidly increased, and until now, it has become the main medium for communications and daily activities.

The intense use of these devices has raised an important question of how these electronic appliances should be treated when they reach the end of their useful life. The Basel Convention defines obsolete electrical and electronic equipment and appliances as e-waste or WEEE (waste from electrical and electronic equipment) and is categorized as hazardous waste. These equipment and appliances contain dangerous chemicals such as mercury, lead, and brominated flame retardants. Improper treatment of e-waste may lead to serious consequences related to human health. Past studies found that humans exposed to improper e-waste landfills exhibit serious health deterioration

such as changes in thyroid function, respiratory problems, changes in temperament and behavior, decreasing lung function, DNA damage, and cancer.

Despite the horrifying effects of improper treatment of e-waste, the world is experiencing an increasing phenomenon of e-waste generation. The United Nations reveals that in 2019, 53.6 million metric tons (Mt) of e-waste were generated globally, with Asia as the most contributor, generating almost half of the figure. The e-waste generation is projected to escalate to 74.4Mt in 2030 and 120Mt in 2050. The United Nations also estimates that only 17% of the e-waste is being environmentally and soundly managed, while the treatment of the other 83% is unknown. It is also believed that part of the unknown figure is transported across the border, from more developed nations to its developing counterparts, which poses a great danger to those living near dumping areas in poorer countries.

The devastating figures and impacts of e-waste generation lead to an avenue for studying the factors that may contribute to good e-waste management practices among business organizations. Although past studies have identified that business organizations have made sustainability agenda a priority, there is a lack of evidence on how e-waste has been treated, especially in industries such as technology and telecommunication, whose activities are highly correlated to e-waste generation. The findings from this study may provide an early indication of whether the proper treatment of e-waste by the industries has been taken seriously to ensure environmental sustainability. This study also examines the factors that may contribute to proper e-waste management. External factors like government regulations and customer expectations and internal factors such as the commitment of top management and the firm's resources are believed to have a significant relationship to the firm's e-waste management practices. Furthermore, the study also believes that an eco-efficiency strategy will play a mediating role in strengthening the impacts. An eco-efficiency strategy is a management strategy that focuses on creating more goods and services while using fewer resources and creating less waste and pollution. Therefore, this study believes that the impact of internal and external factors on e-waste management practices will be enhanced with the presence of an eco-efficiency strategy embedded in the firms' strategic direction.

METHODOLOGY

The study was conducted on Bursa Malaysia listed firms in the telecommunication and technology industries. The selection is based on the requirement of Bursa Malaysia for these firms to disclose their sustainability commitments concerning their e-waste activities. About 28% of the population has responded to a questionnaire survey, which was administered between August - December 2021.

The dependent variable in this study is e-waste management practice. Two independent variables (internal and external factors) were tested in this study. The internal factors consist of top management's commitment and the firm's resources, while government regulations and customer

expectations represent the external factors. The study also incorporates an eco-efficiency strategy as the mediating variable. The variables were measured by a 5-point Likert scale, and the data was analyzed using Smart-PLS.

FINDINGS

The results revealed a significant relationship between internal factors and e-waste management practices in the Malaysian technology and telecommunication industries. This finding indicates that commitments from top management and the firm's resources are important factors that shape good e-waste management practices in the firms under study. Furthermore, the embedded eco-efficiency strategy was also found to have a significant positive impact on e-waste management practices.

Secondly, although a significant impact of the external factors on the dependent variable was not established, the eco-efficiency strategy was found to mediate the association. The finding suggests that external forces such as government regulations and customer expectations do not directly impact a firm's e-waste management practices. However, the external factors drive the firm's commitment toward environmental sustainability through an eco-efficiency strategy embedded in the firm's strategic direction, which, in turn, contributes to good e-waste management practices.

CONCLUSIONS

The findings of the study provide several important facts. Firstly, top management's commitment and the firm's resources have a direct impact on the firm's e-waste management practices. This finding suggests that top management must strongly believe that environmental sustainability is a responsibility of every level of society, including the business firms. In this case, firms must preserve the environment and allocate the required resources to ensure good e-waste management practices and environmental sustainability. Furthermore, having an eco-efficiency strategy will also lead to good e-waste practices. Secondly, external factors such as the government and customers, on the other hand, do not directly lead to good e-waste management practices. Instead, their impact on e-waste management practices is mediated by the firm's eco-efficiency strategy. This might be because the government and customers may have pressured business firms to embed environmental strategy in their business philosophy. By embedding an eco-efficiency strategy, the business firms may have improved their e-waste management practices.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The study provides several contributions. Firstly, at the firm level, the findings of this study may guide business organizations on the factors that play a significant role in creating a good practice of e-waste management.

Secondly, at the national level, the findings from this study may provide some insights to the government and authorities on the level of e-waste practices, specifically in firms listed on Bursa Malaysia. The Sustainability Reporting Guidelines issued by Bursa Malaysia require firms in the telecommunication and technology industries to disclose their activities concerning e-waste. Therefore, the findings from this study may indicate such practices and commitments from the business firms toward preserving environmental sustainability.

Thirdly, at the global level, the findings of this study may contribute to the Sustainable Development Goals (SDG), specifically SDG11, which focuses on creating sustainable cities and communities. Good e-waste management practices may reduce the risk of exposure to hazardous materials and contamination, thus leading to a more conducive place to live for the benefit of every level of society.

ACKNOWLEDGEMENTS

We would like to thank the Ministry of Higher Education Malaysia (MOHE) and Universiti Utara Malaysia (UUM) for supporting this study through Fundamental Research Grant Scheme (FRGS/1/2020/SS01/UUM/02/14).

REFERENCES

- Abd-Mutalib, H., Muhammad Jamil, C. Z., Mohamed, R., Shafai, N. A., & Nor-Ahmad, S. N. (2021). Firm and Board Characteristics, and E-Waste Disclosure: A Study in the Era of Digitalisation. *Sustainability*, 13(18).
- Alabi, O. A., Adeoluwa, Y. M., Huo, X., Xu, X., & Bakare, A. A. (2021). Environmental Contamination and Public Health Effects of Electronic Waste: An Overview. *Journal of Environmental Health Science and Engineering*, 19(1), 1209-1227.
- Baldé, C. P., D'Angelo, E., Luda, V., Deubzer, O., & Kuehr, R. (2022). Global Transboundary E-waste Flows Monitor 2022. Retrieved from https://ewastemonitor.info/wp-content/uploads/2022/06/Global-TBM_webversion_june_2_pages.pdf
- Forti, V., Baldé, C. P., Kuehr, R., & Bel, G. (2020). The Global E-waste Monitor 2020: Quantities, Flows and the Circular Economy Potential. Retrieved from Bonn/Geneva/Rotterdam: <https://www.invest-data.com/eWebEditor/uploadfile/2020071100243938206180.pdf>
- Glavič, P., & Lukman, R. (2007). Review of sustainability terms and their definitions. *Journal of Cleaner Production*, 15, 1875-1885.

UNDERSTANDING ECO-INNOVATION CAPABILITIES AND BUSINESS PERFORMANCE OF MALAYSIAN SMEs DURING COVID-19 PANDEMIC

*Siti Nur 'Atikah Zulkiffli**
Universiti Malaysia Terengganu, Terengganu

Najahul Kamilah Aminy Sukri
Universiti Malaysia Terengganu, Terengganu

Nik Hazimah Nik Mat
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** atikahzulkiffli@umt.edu.my

ABSTRACT

One of the most unexpected pandemics in living history, the corona virus disease 2019 (COVID-19) has caused significant concern not just in Malaysia but also around the world. The ability of industrial companies, particularly small and medium-sized ones, to run and expand commercial operations like pursuing eco-innovation inside their organization is directly impacted by this pandemic. Thirteen top management professionals from SMEs volunteered in online interviews as part of this study, which was qualitative in nature and used snowball sampling to increase the number of respondents. The outcomes of this study reveal that Malaysian SMEs are capable of changing at least one eco-innovation capability inside the organisation. Eco-innovation might prove beneficial for the business firm across the board. To construct eco-innovative products, processes, organizations, and marketing strategies that can sustain their business performance, manufacturers should first take environmental sustainability into consideration. Thematic analysis was performed to analyze the data collection. Companies are thus better positioned to develop eco-innovation capabilities in order to maintain their business performance throughout the global pandemic. Because manufacturing SMEs may rely on this research to help them improve their eco-innovation capabilities and performance, policymakers, government agencies, and manufacturing SMEs' managers may benefit from this research's efforts.

KEYWORDS: COVID-19 pandemic, Eco-Innovation Capability, Business Performance

PURPOSE AND BACKGROUND

The movement control order (MCO) that went into effect in Malaysia on March 18, 2020, and is still in effect today, according to the Department of Statistics, has hampered the operations of a number of industries, including the manufacturing sector (D. o. S. Malaysia., 2020). Due to a lack of understanding and information about eco-innovation and how it affects company sustainability, there has been little research on the subject in Malaysia. The objective of this research is to discover what additional eco-innovation capabilities Malaysian SMEs adopted during the COVID-19 pandemic. This

study aims to fill a knowledge gap by analyzing the significance of eco-innovation and how it may result in sustainable business performance among Malaysian SMEs during the pandemic. Conclusions have been reached based on the findings of the investigation into Malaysian SMEs' efforts to innovate green activities. The main findings are then presented, along with recommendations for further research.

METHODOLOGY

To achieve the research objectives, an expert-based qualitative research methodology is being used. A snowballing sampling was used during the interview session to gather expert opinions and perspectives. The researcher used snowball sampling to recruit more participants, in which one interviewee offered the name of at least one potential participant (Kirchherr & Charles, 2018). A thematic approach was used to analyze the data in this qualitative study. Thematic analysis is a method for analyzing, characterizing, and describing research data based on individual comprehension. Following a review of the literature on the subject, research questions (RQs) were developed based on previously acquired knowledge and information.

RQ1: What eco-innovation capabilities has the organization implemented during the COVID-19 pandemic?

RQ2: How do you view eco-innovation capabilities and whether they can sustain your business performance?

RQ3: Are you aware of the issue of eco-innovation in your organization during the COVID-19 pandemic?

The interviews took place between November 2021 and July 2022. Semi-structured interviews were used to collect data, allowing the researcher to interact more productively with participants, particularly those who desired a safe space to express their opinions and thoughts on the issue. Using semi-structured interviews, the researcher can collect and analyze data on significant eco-innovations implemented by Malaysian SMEs during the COVID-19 pandemic. The transcribed information was then organized according to the topic and importance coding of the interviewees' responses.

FINDINGS

According to the findings, five factors contribute to the eco-innovation capability that contributes to business performance: eco-product innovation, eco-process innovation, eco-organizational innovation, eco-marketing innovation, and eco-technology innovation. These capabilities were identified following an interview session between the researcher and the top executives from thirteen Malaysian SMEs. The study also discovered that Malaysian SMEs are capable of adapting and implementing at least one of the eco-innovation capabilities within their organization during the

COVID-19 pandemic. The explanations and perspectives of the participants were understood and classified into five eco-innovation capabilities. Eco-product innovation and eco-organizational innovation were implemented by Malaysian SMEs which are eleven over thirteen companies (85 percent). There is also eco-process innovation, which has been adopted by twelve out of thirteen companies (92 percent). This study also discovered that all thirteen organizations implemented eco-marketing innovation (100 percent). The fifth eco-innovation factor, eco-technology innovation, was implemented by ten out of thirteen Malaysian SMEs (77 percent). All of these factors were feasible for Malaysian SMEs to implement because their internal and external resources were sufficient to accommodate and support innovation activities while maintaining business performance.

CONCLUSIONS

According to the responses, SMEs can withstand the COVID-19 pandemic and continue operating their businesses. SMEs continue to modify their innovation activities in order to compete with their competitors by meeting the demands and desires of their customers. According to the study's findings, the majority of participants were able to pursue eco-product, eco-organizational, eco-marketing, and eco-technology innovation. These five innovation capabilities have a unique interdependence that necessitates their mutual support in order for SMEs to maintain their business performance. The current study came to some conclusions about the relationship between SMEs and eco-innovation, but it also had significant limitations. Because the majority of respondents declined to participate in the study during the pandemic phase, the movement control order (MCO) impacted data collection activities when reaching the respondents. Future research can be conducted if SMEs improve their engagement with suppliers or relevant government organizations while developing innovative activities to ensure that the innovation is implemented more easily and successfully. These initiatives may give Malaysian SMEs a better chance of survival in these trying times.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The findings of this study will inspire future research to increase SMEs' understanding of their capabilities for eco-innovation while maintaining business performance. This is to ensure that SMEs can pursue any innovation activity, even in the face of difficult circumstances during the COVID-19 pandemic crisis. This study will also aim to improve policy development in the area of sustainable environment.

REFERENCES

- Malaysia, D. o. S. (2020). Survei Khas Kesan Covid-19 kepada Ekonomi dan Individu.
- Kirchherr, J., & Charles, K. (2018). Enhancing the sample diversity of snowball samples: Recommendations from a research project on anti dam movements in Southeast Asia. *Plos One*, 1-17.

ASSESSING THE READINESS OF SUSTAINABILITY DEVELOPMENT AMONG MSMEs

*Arifha Mohamad**

Universiti Tun Hussein Onn Malaysia, Johor

Umi Katini Rashid

Universiti Tun Hussein Onn Malaysia, Johor

Wan Fauziah Wan Fauzi

Universiti Tun Hussein Onn Malaysia, Johor

Mohd Nazir Mohd Adi

Universiti Tun Hussein Onn Malaysia, Johor

***Corresponding Author:** *arifha@uthm.edu.my*

ABSTRACT

Micro, Small and Medium Enterprises (MSMEs) are small business entities that had contributed to a significant economic performance in Malaysia. However, the Covid-19 pandemic had forced most MSMEs to close down their business. The incident had risked owners, employees, and suppliers. This paper highlights the three main sustainability, which are economic, social, and environment to be embedded in the business activities. Based on the analysis, the countries have good support in terms of economic and social, while there are very limited voluntary principles implemented to MSMEs in terms of environmental sustainability. It is very important to adapt all three areas of sustainability for entrepreneurs to become Green Entrepreneurs. In summary, with the help of various authorities, it is hoped that MSMEs are able to fulfil all areas of sustainability in their business activities. The limitation of this study is only reviewing literature from previous studies and policies that had been implemented in the selected countries. In future, a detailed analysis should be conducted by involving respondents from MSMEs, various agencies and stakeholders, and by having a better understanding on sustainability among MSMEs.

KEYWORDS: Economic, social, environment, sustainability, MSMEs.

INTRODUCTION

According to the 14th National SME Development Council (NSDC) meeting in 2013, a new definition of SMEs had been endorsed, "a business will be classified as an SME if it fulfils all the three conditions in regard to the qualifying criteria, type of establishment and shareholding structure". The restructuring definition enlarged the sales turnover amount and number of employees to ensure that new business operations are capable of carrying out business in a relevant group. Malaysian MSMEs are divided into three sectors, which are manufacturing, services, and others. Business that is categorised in

manufacturing refers to the physical or chemical transformation of materials or components into new products. Meanwhile, the services category refers to all services including distributive trade, hotels and restaurants, business, professional, and ICT services, private education and health, entertainment, financial intermediation, and manufacturing-related services such as research and development (R&D), logistics, warehouse, and engineering. Lastly, other economic activities refer to the primary agriculture, construction, and mining and quarrying. For the type of companies, all businesses are deemed to be regarded as MSMEs, except for public listed companies and subsidiaries of PLCs, large firms, multinational corporations (MNCs), Government-linked companies (GLCs), Syarikat Menteri Kewangan Diperbadankan (MKDs), and state-owned enterprises.

In 2019, a global virus had spread to almost every region in the country. The unexpected disaster certainly had a negative impact to the society. The hardship to survive during and post-pandemic was burdensome for businesses, especially MSMEs. Post Covid-19 is the phase of economy recovery in many sectors, especially to the most affected, such as businesses, tourism and hospitality, and manufacturing. With the new rules and regulations during the pandemic, businesses were unable to operate as usual. With fewer customers and restricted supply of materials, some of the businesses have had to shut down their operations. As there are varieties in the size of business registration, it is undeniable that MSMEs globally were the most affected business entities during the pandemic. In Malaysia, at least 15,000 SMEs have shut down, resulting in 1.2 million job losses. A total of 84% of SMEs highlighted that they had difficulties in online connectivity and communication with customers and suppliers, thus, they needed better improvement, especially connectivity for work from home (WFH).

According to the World Bank 2020 report, Malaysia (upper middle-income group) ranked 12 out of 190 nations for the ease of doing business ranking. The elements counted for the ranking are starting a business, dealing with constant permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts, resolving insolvency, and ease of doing business. On the other hand, New Zealand (high income group) and India (lower middle-income group) were ranked at 1 and 63 for ease of doing business, respectively.

Based on the authorities appointed for the welfare of MSMEs, New Zealand introduced the Minister for Small Business, Department the Ministry of Business, Innovation, and Employment. The responsibilities are building relationships with small businesses and their representative organisations, championing initiatives across government which benefit small businesses, and ensuring the characteristics of small business are considered in the design and implementation of policies which affect businesses. In Malaysia, the Ministry of Entrepreneur Development and

Cooperative (MECD) was established to provide a stimulating business environment and development support to SMEs by stimulating legislation, improving institutional capacities, rendering adequate measures of economic policy, and establishing the necessary infrastructure. In addition, India established the Ministry of Micro, Small and Medium Enterprises (MSMEs), and envisioned a vibrant MSME sector by promoting growth and development of the MSME sector, including Khadi, Village and Coir Industries, in cooperation with the concerned Ministries/Departments, State Governments and other stakeholders through providing support to existing enterprises and encouraging the creation of new enterprises.

DISCUSSION

Economic Sustainability

A controversy shaping is much dependent on the economy and disregards the vital role of social and environmental sustainability towards the business performance. As a business owner, the main objective is surely for monetary values. It is becoming crucial for a business organisation to engage with social and environment strategies, and consistently focus on the economic dimension. The three dimensions emphasise long-term business survival in the industry to encounter the controlled and uncontrolled disasters. Economic sustainability refers to the guarantee of sufficient cash flow for liquidity while ensuring adequate returns for the shareholders (Dyllick, & Hockerts, 2002). MSMEs sustainability dimensions might be different from large sized companies due to the small size of business, ownership status, financial and resources limitations, and informal business practices. Hence, slow movement towards the social and environmental dimensions is influenced by more sensitivity on internal stakeholders and personal values of business owners. Most of the previous studies commented that MSMEs must focus on the economic dimension to fulfil the needs of owners, employees, customers and suppliers, while the social and environmental dimensions will incur additional costs for the business operations (Lawrence, Collins, & Pavlovich & Arunachalam, 2006; Günerergin, & Penbek & Zaptçioğlu, 2012; Eikelenboom & de Jong, 2019). Contradictorily, Goodland (1995) claimed that economic sustainability is income from the sole focus on human-made capital and its surrogate, which is money, to embrace the other sustainability dimensions on social, environment and natural.

Social Sustainability

The theory of social sustainability is interrelated with economic growth to fulfil the requirements of social sustainability. The development of social sustainability was highlighted by Sachs (1999), where there are a few elements embedded in social sustainability, which constitutes of social homogeneity, equitable incomes, and access to goods, services, and employment. Many scholars evaluated that social sustainability is to serve the current society and future development. Furthermore, the

definition captures the concerns on the tangible and less tangible necessities for life, such as need for jobs, food, energy, water and sanitation, and equal distribution of power in society. The huge inequality differences can be demonstrated within the countries and between less developed and developing countries. Based on the Brundtland Report, social sustainability will be met when people's basic needs are fulfilled. However, Crabtree (2005) critiqued that the inequality in differences will lead to the adaptation of green technologies, such as solar panels and other means of electrical disposal.

Environmental Sustainability

Environmental sustainability refers to the integration of economic inputs and absorber of economic outputs. The production of the industry has to be within adequate resources while the emissions of production do not harm the environment. Environmental sustainability can be called as a subset for ecological, which is a connection of human activity to the ecological concept of health ecosystems. There are a few dimensions of environmental sustainability, composed of (i) provisioning services of the products obtained from ecosystems; (ii) regulating services, and the benefits obtained from the regulation of ecosystem process; (iii) supporting services; and (iv) culture services, which are the non-material benefits people obtain from ecosystems (Morelli, 2011). In truth, most business activities prioritise the economy, while ignoring the impact to the environment. It is clearly seen by large sized companies that abandon their responsibility to safeguard the environment. It has to be clear that if businesses prioritised the environment, it will be costly to them. Environmental sustainability has a wide view of applications, such as abide by the laws and regulations, prevention use of harmful substances in the products or services, and voluntary proactive action.

Green Entrepreneurs

This study proposed a framework on combining the components of Green Entrepreneurs into the three areas of sustainability. It is a simple framework to show the importance of economic, social, and environmental sustainability among the MSMEs. From the business owners' perspectives, the main component is economic sustainability. Other than for business development, a strong economic performance also motivates the owners for self-reward. Without neglecting the social and environmental components, the application indirectly helps with business development. The term social not only refers to the community as a whole. If the business owner is doing good to the employees, clients, customers and suppliers, they have fulfilled social sustainability. For the last component, environmental sustainability can be included in the business process. Business owners do not have to create other activities to fulfil the environmental component. The quality of the products and services can be achieved with eco-friendly components and reduce pollution. As such, the integration of all sustainability components reverts to the economic part. Hence, it is important for

businesses, especially MSMEs, to focus on economic, social, and environmental sustainability for long-term achievement.

CONCLUSION

As a conclusion, the sustainability components have to be fulfilled with the three aspects of economic, social, and environmental. The use of sustainability is to avoid the closure of MSMEs' business entities, mainly due to several aspects in comparison to large sized companies. Recently, the global hit of Covid-19 had majorly impacted the business activities of MSMEs and most of them were unable to sustain their business in the industry. Hence, this paper enhances the practice of all three sustainability aspects among MSMEs managers. The main ideas are not only to encounter the impact of the virus, but also on the economic crisis, management issues, and environmental impact.

There are various initiatives taken by the Malaysian authority in enriching the economic, social, and environmental sustainability among MSMEs managers, while global practices that are aligned with the Malaysian culture can be adapted. However, it is undeniable that conducting this sustainability will burden managers in small business entities. With the minimal practices, sustainability helps the business to be sustained in the industry.

ACKNOWLEDGEMENTS

This research was supported by Universiti Tun Hussein Onn Malaysia (UTHM) through TIER 1 (vot Q122).

REFERENCES

- Dyllick, T. & Hockerts, K. (2002). Beyond the business case for corporate sustainability. *Bus. Strat. Env.*, 11, 130–141.
- Eikelenboom, M. & de Jong, G. (2019). The impact of dynamic capabilities on the sustainability performance of SMEs. *J. Clean. Prod.*, 235, 1360–1370.
- International Labor Organization. (n.a). Green Entrepreneurship: Creating Green Jobs Through Sustainable Enterprise Development. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_250688.pdf
- KapitiCoastNZ. (2020). *Sustainability Policy or Plan*. Retrieved from <https://www.kapiticoastnz.com/business/sustainablebusiness/tools-and-templates/sustainable-business-policy-templates/>
- Khalid, S. (2022). MSMEs Contributed 37.4% to Malaysia's GDP. *The Edge Markets*.
- Lawrence, S.R., Collins, E., Pavlovich, K. & Arunachalam, M. (2006). Sustainability practices of SMEs: The case of NZ. *Bus. Strat. Environ.*, 15, 242–257.

INVESTING IN SOCIALLY RESPONSIBLE INVESTMENT (SRI): THE ROLE OF RESPONSIBILITY, CONSCIOUSNESS AND LITERACY IN AN EXTENDED TPB MODEL

*Pick-Soon Ling**

University of Technology Sarawak, Sarawak

Liing Sing Ling

University of Technology Sarawak, Sarawak

Sarah Dayang Wasali

University of Technology Sarawak, Sarawak

***Corresponding Author:** *ling.pick.soon@uts.edu.my*

ABSTRACT

This study aimed to explore the role of environmental responsibility, environmental consciousness, and financial literacy on the investment intention in Socially Responsible Investment (SRI). An extended Theory of Planned Behaviour (TPB) model with the three additional constructs has been proposed. The convenience sampling technique has been utilized to collect the primary responses from Malaysian and a total of 228 usable responses were collected and further analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings first showed that both environmental responsibility and environmental consciousness significantly affect attitudes, and financial literacy also played a similar effect on perceived behavioural control. Besides, the intention to invest in SRI was also found to be significantly influenced by attitude, subjective norms, and perceived behavioural control. The mediating analysis further revealed that both attitude and perceived behavioural control could be the significant mediators whereas environmental responsibility, environmental consciousness and subjective norms could impact SRI intention indirectly through attitude, while financial literacy has an indirect impact on intention to invest in SRI through perceived behavioural control. The findings of the study offered significant implications both theoretically and practically and they have been discussed.

KEYWORDS: Socially responsible investment, environmental responsibility, environmental consciousness, financial literacy, theory of planned behaviour.

PURPOSE AND BACKGROUND

Socially Responsible Investment (SRI) have gained more demand with the increasing awareness of consequences caused by economic activities. In comparison to conventional investments that focus solely on the financial benefits, SRI is the investment that doesn't sacrifice social and environmental sustainability for the economic benefits, as it will balance the economic benefits and also the society and environmental sustainability. As a result, investors cannot expect a comparative economic benefit

from SRI. Therefore, in order to invest in SRI, investors must have a rational and informed judgement in making their investment decision in SRI. However, making a rational and informed judgment is not easy as the investment decision-making process involved complex and dynamic thinking (Jain *et al.*, 2022) and could be affected by multiple factors. Since the SRI is related to social and environmental sustainability, therefore, the responsibility and consciousness of the environment could play an important role. As mentioned by Channa *et al.* (2022), individuals are more likely to perform some environmentally friendly behaviour if they are conscious of the environmental issues and feel responsible for the environment. Similarly, some studies also proved that environmental responsibility (Yue *et al.*, 2020) and environmental consciousness (Kumar *et al.*, 2021) played important role in determining pro-environmentally behaviour. Moreover, making a rational and informed investment decision required a certain level of financial knowledge and capabilities. Thus, financial literacy is also crucial for a rational and informed investment decision. This is in line with Jain *et al.* (2022), and Raut *et al.* (2021), who revealed that financial literacy is a significant factor in investment decision-making. Therefore, it is essential to conduct a study to examine the role of environmental responsibility, environmental consciousness, and financial literacy in the intention to invest in SRI.

Empirically, there is extant literature regarding the determinant factors of investment intention in different contexts, such as the stock market (Lai, 2019; Raut, 2020), *Sukuk* (Khan *et al.*, 2020), cryptocurrency (Ayedh *et al.*, 2021; Zhao & Zhang, 2021). Apart from that, there are various studies that proposed or explored the determinant factors of investing in SRI (Adam & Shauki; 2014; Mehta *et al.*, 2020; Raut *et al.*, 2021). For example, Mehta *et al.* (2020) proposed a conceptual framework that suggests the intention to invest in SRI could be positively affected by attitude and subjective norms and social investing efficacy as mediation and religiosity beliefs as moderators. Besides, Adam and Shauki (2014) examine the role of moral norms by integrating them into the TPB model, while Raut *et al.* (2021) investigated the SRI intention using the Theory of Reasoned Action (TRA) with four additional factors (moral norms, environmental concern, financial literacy, and financial performance). However, the evidence on the role of environmental responsibility, environmental consciousness, and financial literacy on investment intention in SRI is relatively scarce, especially for the indirect role. Therefore, this study aims to explore the role of the three additional constructs, namely environmental responsibility, environmental consciousness, and financial literacy in predicting the intention to invest in SRI. An extended research model based on the TPB model has been proposed where the three additional constructs react as the exogenous variables that have a direct influence on the attitude and perceived behavioural control and ultimately influence investment intention in SRI together with the subjective norm. The indirect influences of the three additional constructs are also

examined in this study to provide more comprehensive findings on the role of these three additional constructs.

METHODOLOGY

The quantitative approach has been used to achieve the research objective of the study whereby the primary responses were collected from the general public in Malaysia. Convenience sampling was used in collecting the responses. The 228 usable responses were gathered, and this number of samples is sufficient as it met the minimum sample size of 153 that was determined by using the power analysis in G*Power software with an effect size of 0.15, a power level of 0.95 and seven predictors. To develop the questionnaire, a total of 25 measurement items for seven constructs were adapted from previous studies (Dang *et al.*, 2021; Kumar *et al.*, 2021; Raut, 2020; Raut *et al.*, 2021; Yang *et al.*, 2021; Yue *et al.*, 2021). The respondents were requested to provide their responses using the seven-point Likert scale that ranges from 1 (strongly disagree) to 7 (strongly agree). The Partial Least Squares Structural Equation Modelling (PLS-SEM) has been employed to analyze the collected response as the multivariate normality test of Mardia's coefficient procedure has proved that the responses were not normally distributed (Hair *et al.*, 2019). Moreover, the full collinearity test has also proved that the common method bias doesn't exist in this study as the Variance Inflation Factors (VIF) values for all constructs are smaller than the threshold value of 3.3 (Kock, 2015).

FINDINGS

The analysis began with the measurement model assessment by using the reliability and validity tests. Firstly, the results of outer loadings showed that the convergent validity is achieved as all measurement items have a loading value that is greater than 0.708 (Hair *et al.*, 2019), except for ER1 and EC4 which have been deleted due to the values of the low loading. Besides that, the convergent validity for construct level is also established as the Average Variance Extracted (AVE) values for all constructs are also higher than the standard level of 0.500 (Bagozzi & Yi, 1988). In addition, Composite Reliability (CR) has been used to test the internal consistency of the responses and the results showed that the responses are highly consistent as the CR values for all constructs are greater than the threshold of 0.700 (Gefen *et al.*, 2000). Moreover, the discriminant validity was also examined by using the Heterotrait-Monotrait (HTMT) ratio of correlation and proved that the discriminant validity was also attained as the HTMT value is lower than the liberal level of 0.900 (Gold, 2001). With that, these assessments proved that the measurement model of the study is sufficiently reliable and valid as it's passed in all reliability and validity assessments.

The 5000-resampling bootstrapping procedure in SmartPLS has been utilized to test the hypotheses. Overall, the results showed that all hypotheses are supported, except for H₂ whereas the subjective norm has no significant influence on attitude. The result firstly revealed that investment

intention in SRI is significantly affected by three constructs of TPB, namely attitude, subjective norm, and perceived behavioural control, and thus, H₁, H₃ and H₄ are supported. Moreover, the findings also revealed that both environmental responsibility and environmental consciousness significantly influenced attitude, while financial literacy also has a significant impact on perceived behavioural control. This showed that H₅, H₆ and H₇ were also supported. In terms of the effect size, the results indicated that attitude has a medium effect on SRI intention, and both subjective norm and perceived behavioural control have a small effect size on SRI intention. In addition, the subjective norm does not affect attitude, but environmental responsibility has a small effect and environmental consciousness has a medium effect on attitude. Unlike another two constructs, financial literacy possesses a large effect on perceived behavioural control.

For the mediation role of the attitude and perceived behavioural control, the results proved that both constructs have a significant mediating effect on the intention to invest in SRI. For instance, environmental responsibility, environmental consciousness, and subjective norm have a significant indirect effect on the intention to invest in SRI through attitudes, and therefore, H₈, H₉, and H₁₀ are supported. Similarly, financial literacy also has significantly impacted SRI investment intention via perceived behavioural control and thus, H₁₁ is also supported. The effect size further proved that both environmental responsibility and environmental consciousness have a small effect on SRI intention while subjective norm does not affect intention to invest in SRI. A small effect of financial literacy on SRI intention was also found.

CONCLUSIONS

This study has explored the effect of environmental responsibility, environmental consciousness, and financial literacy on the intention to invest in SRI using the extended TPB model. The results from the 228 responses in Malaysian revealed that all three additional constructs in the TPB model have a significant influence on the intention to invest in SRI. The findings proved that the three additional constructs played a particularly significant role in determining the SRI intention, environmental responsibility and environmental consciousness have a significant effect on attitude, while financial literacy significantly impacted perceived behavioural control. Moreover, the mediating analysis further proved that both attitude and perceived behavioural control have a significant mediating effect, whereas environmental responsibility, environmental consciousness and the subjective norm have a significant indirect effect on the intention to invest in SRI through attitude, while financial literacy has an indirect effect on SRI intention via perceived behavioural control.

CONTRIBUTION/PRACTICAL IMPLICATIONS

In this study, the effect of environmental responsibility, environmental consciousness, and financial literacy on the intention to invest in SRI has been explored by extending the TPB model. This extended

model is expected to address the contradictory evidence in the literature and comprehensively examine the SRI intention in Malaysia. Environmental responsibility, environmental consciousness and financial literacy were found to play a crucial role in predicting SRI intention indirectly through attitude and perceived behavioural control. The three constructs firstly have a direct impact on attitude and perceived behavioural control then eventually affect the intention to invest in SRI. This finding provided fresh evidence to the literature, especially in behavioural finance, proving the role of environmental responsibility, environmental consciousness and financial literacy on investment intention in SRI and this could enrich the literature that has limited evidence on this.

The findings of the study also provide practical implications for the stakeholders in the industry such as market regulators, fund management companies, and investment consultants. The findings of the study revealed that three constructs in TPB played important role in cultivating the investment intention in SRI. Therefore, the stakeholders have to focus on these areas to increase the SRI investment intention. For instance, the information related to the advantages and benefits of SRI have to be publicly disseminated as it could enhance the favourable attitude towards the SRI. Moreover, to increase the attitude toward SRI, both environmental responsibility and environmental consciousness are also found to be crucial factors. Therefore, enhancing the responsibility and consciousness toward the environment could significantly create a positive attitude in the SRI. The findings indicate that if the investors are aware about the negative consequences of the conventional investment and they are aware and conscious of the social and environmental problems, they tend to feel responsible and will have a favourable attitude toward the SRI as it is one of the environmentally friendly investment instruments. Furthermore, in order to promote the investment intention in SRI, the policies and strategies should not focus solely on the investors as social pressure from the people around them like family members, friends, colleagues and investment consultants could influence their investment decision. If the people surrounding them have a positive perception and/or invest in the SRI, then it would encourage them to invest in it as well.

In addition, the fund management companies have to reduce the complexity of the investment application by introducing online applications with minimal procedures and charging a lower cost on the investment in SRI as this could cultivate the investment intention in SRI. Furthermore, in order to enhance the perceived behavioural control of the investors in investing in the SRI, some education programmes like forums and workshops, as well as any other financial information that could enhance the understanding of the investors such as market prospect and performance analysis reports have to be made available to the public in order to improve the financial literacy level of the investors which will eventually promote the investment intention in SRI. Lastly, the policymakers and market regulators also have to provide some fiscal and monetary incentives to the market players like fund

management companies and investors to cultivate their responsibility in protecting the social and environment. For instance, income tax reduction or rebate could be provided to the fund management companies and also investors who are involved in and/or invest in SRI. With these, it is expected that the intention to invest in SRI could be improved and encourage a sustainable investment environment that does not scarify the sustainability of the social and environmental.

REFERENCES

- Adam, A.A., & Shauki, E.R. (2014). Socially responsible investment in Malaysia: behavioral framework in evaluating investors' decision-making process. *Journal of Cleaner Production*, 80, 224-240.
- Lai, C-P. (2019). Personality Traits and Stock Investment of individuals. *Sustainability*, 11(19), 5474.
- Mehta, P., Singh, M., & Mittal, M. 2020. It is not an investment if it is destroying the planet: A literature review of socially responsible investments and proposed conceptual framework. *Management of Environmental Quality: An International Journal*, 31(2), 307-329.
- Raut, R.K. (2020). Past behaviour, financial literacy and investment decision-making process of individual investors. *International Journal of Emerging Market*, 15(6), 1243-1263.
- Raut, R.K., Kumar, R., & Das, N. (2021). Individual investors' intention towards SRI in India: an implementation of the theory of reasoned action. *Social Responsibility Journal*, 17(7), 877-896.

THE USE OF BANKING INFORMATION SYSTEM TO IMPROVE SERVICE PERFORMANCE: THE MEDIATING INFLUENCE OF BANK FEATURES

Jehan Ahmad Khiro Abu Rasaul
Universiti Malaysia Terengganu, Terengganu

*Mohd Shaari Bin Abd Rahman**
Universiti Malaysia Terengganu, Terengganu

Faozi Almaqtr
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *shaari@umt.edu.my*

ABSTRACT

In today's contemporary market environment, the ever-growing need for business development, growth and expansion has forced managers to consider more advanced management techniques aimed at enhancing organisational decision making. The implementation of information systems within business organisations is one of these techniques. Information system is an absolute instrument in the hands of managers struggling to stay in a competitive edge in the midst of rapid technological change, increased knowledge and demanding consumer and business holder expectations. This research therefore aims to analyse the mediating influence of bank features on information system and bank performance in Jordanian Commercial Banks. For the collection and analysis of data, which consists of 400 questionnaires but only 380 were valid, quantitative methodology has been used. In addition, the data was analysed to test the research hypotheses of this analysis using the Partial Least Square Structural Equational Modeling (PLS-SEM). The results of the study suggest that information system has a positive significant influence on bank performance. Information system has had significant effect on bank features. Bank features has had a positive significant effect on bank performance. Information management has had a significant effect on employee productivity by bank features.

KEYWORDS: Bank features, bank performance, information system, Jordanian commercial banks, PLS-SEM

PURPOSE AND BACKGROUND

Jordan has an active functioning banking sector with various commercial banks as entities. The Central Bank, known as the Bank of Jordan, manages these commercial banks (Nuskiya, 2018). Since they are all governed under the Basel Accords as a collection of minimum international standards, commercial banks perform similar roles as banks around the world. Commercial banks have now resorted to e-

banking activities with advanced technology, because they are useful in ensuring revenue generation due to the large volume of transactions. There has however, been a conflicting relationship between the two: some argue that a strong connection exists between the two (Ali, et al., 2016). Other researchers, however, argue that there is a negative association between the two. This is clear from Siam (2006), who researched the e-contribution banks to Jordanian banks' banking success. The findings have shown that the e-bank does not make a significant contribution to Jordanian banks' bank earnings. This has been due to the high costs associated with the construction of ICT infrastructure, the training of workers to meet the specifications, and the maintenance of facilities to ensure the standard of service for customers (Arabmazar Yazdi, et al., 2017).

In order to keep up with the pace, satisfy customers and stay competitive in the market, technological innovations, fierce competition and ever-changing consumer demands have forced banks to adapt their strategies and techniques and use of banking technology. Many banks are now embracing e-banking and are serving their clients through e-banking platform channels. Banking transactions have been digitised to meet the needs of consumers (Alnajjar, 2017). Customers now benefit from banking services and banks earn income from fees levied on knowledge banking services. Literature indicates that bank information positively impacts bank performance. In view of this the primary aim of this research is to find out and analyse whether information system has an impact on banks' business results. For several reasons, this research is of particular significance; while information system is a common practise in Jordan, there are few studies on its effect on the banking sector. The findings of Talal and Abu Khadra (2008) indicate that Jordanian rule, as a major factor in the implementation of IS in Jordan, may be the cause of some banks' inefficient implementation of information system. They say that information system implementations could be adopted by some banks without being conscious that these procedures are actually elements of what is known as information system.' In addition, Jordan has received increased investments from all over the world, but particularly from developing countries; information system activities are specifically built into the donor banks' policies in these instances. As a result, this study focused on Commercial Banks' information system activities in Jordan.

METHODOLOGY

The study used analysis utilising a quantitative approach with a descriptive research style. A three-section questionnaire was developed and circulated to respondents. With respect to capital and the number of years it has been running, the first section focuses on bank characteristics. The second section involves business performance issues, using a three-point scale to assess each particular aspect of business performance. Driven steps were provided to respondents to ensure that their calculations were accurate in terms of results for each question. The study used commercial banks

registered with the Central Government Bank of their choice; several foreign banks, registered in their country of origin, operate in Jordan. There are a significant number of stakeholders in some of the commercial companies operating in Jordan. In the target sample, there were 20 commercial banks. The study concluded that all questionnaire variables were available and that questionnaires were classified as invalid because they were not complete. 28 participants left the bank performance issues blank or partly blank; most of the commercial banks in the study sample had significant resources correlated with the inflation of the banking sector in Jordan. For both categories, the measurement "between 5-10 years" has the highest percentage. The researcher noted that the key factor for commercial banks is that they are usually more versatile and sensitive to customer needs, but this is due to the fact that for no other reason, Islamic banks must adhere to religious rule.

FINDINGS

Table 4: Summary of Path Coefficients

	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Information System -> Bank Performance	0.324	0.057	5.677	0.000
Information System -> Bank Features	0.831	0.011	72.95	0.000
Bank Features -> Bank Performance	0.547	0.059	9.29	0.000

Table 4 above describes the summarised results of the study's SmartPLS Structural Equation Model (SmartPLS SEM). It shows that the path coefficients, Standard Deviation (STDEV), and the probability value value value derive from the respective construct of this analysis (P-value). In addition, the information system and bank performance have discovered an important positive link. The results showed that a 1% improvement in the information system would lead to an increase in the output of employees in Jordanian commercial banks by 0.324. Moreover, the findings revealed a significant positive impact of the information system on the features of the bank. The results showed that a 1 percent rise in the information system in Jordanian commercial banks would lead to an increase in bank features of 0.831. In addition, bank features and bank performance revealed a significant positive relationship. The findings showed that a 1 percent increase in bank features in Jordanian commercial banks would lead to a 0.547 increase in bank performance.

CONCLUSIONS

There has been some discussion among researchers with respect to the expense of Information System, and whether it influences Banking Sector Performance. Because of the usage of Information System this study builds up a positive effect on Financial, Economic and Marketing Performance; this positive relationship is substantial for the two examples in the investigation. It has not been demonstrated that varieties in monetary or promoting execution are associated with the advantages held by a particular bank. The study affirms that for Banks with International Operations, the connection between bank type and Economic Performance is critical. Participation between the public area and the Central Bank of Jordan is needed to expand the utilization of Information Software, prompting expanded straightforwardness and explanation in financial activities. As to the contention business banks, the discoveries of this investigation confirm those of Smaiziene (2008), who found that advances are the principle wellspring of bank advantage instead of speculation uphold because of troublesome financial conditions. For banks acquainting up-with date equipment and programming applications, just as cycles pertinent to foundational factors, the Central Bank of Jordan should give a motivating force conspire.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This study has affirmed that dynamic is more profitable and more ideal if senior administration permits laborers to utilize innovation viably, while improving their skill and information base. All things considered, this investigation has just investigated the perspective of the Banking Industry, that is, the information given by the board. Further exploration is expected to broaden the discoveries by gathering Data from lower-level laborers and bank customers. To explain the situation of IS in Bank Performance, client view of a bank and its administrations is critical; subsequently, future study is expected to assess their assessment, by methods for overviews or meetings.

REFERENCES

- Ali, B. J., Omar, W. A. W., & Bakar, R. (2016). Accounting Information System (AIS) and organizational performance: Moderating effect of organizational culture. *International Journal of Economics, Commerce and Management*, 4(4), 138-158.
- Alnajjar, M. I. M. (2017). Impact of accounting information system on organizational performance: A study of SMEs in the UAE. *Global Review Of Accounting And Finance*, 8(2), 20-38.
- Arabmazar Yazdi, M., Nasser, A., Nekoe Zadeh, M., & Moradi, A. (2017). The impact of accounting information system flexibility on firm performance with dynamic capabilities approach. *Accounting and Auditing Review*, 24(2), 221-242.
- Nuskiya, A. F. (2018). The Effect of Information Technology on Employees' Performance in the Banking Industry in Sri Lanka. Empirical Study Based on the Banks in Ampara District. *European Journal of Business and Management*. ISSN, 2222-1905.
- Sukardi, I. M. (2019). The effect of information technology relatedness on union performance mediated by knowledge management capability. *International research journal of management, IT and social sciences*, 6(3), 46-60.

RELIABILITY AND VALIDITY OF OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT PRACTICES QUESTIONNAIRE (OSHMPQ) IN PUBLIC EDUCATION INSTITUTIONS: A RASCH MODEL ANALYSIS

*Muhamad Affandi Ismail**
Universiti Malaysia Terengganu, Terengganu

Fahirah Shaliza Mokhtar
Universiti Malaysia Terengganu, Terengganu

Azlinzuraini Ahmad
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** p4418@pps.umt.edu.my

ABSTRACT

Occupational safety and health management practices (OSHMP) are systematic management policies, strategies, procedures, and practices that are implemented or followed by the management of an organization with a focus on safety and health in terms of protecting employees and reducing risks to their health and safety. Since there is no instrument that assesses OSHMP based on a combination of physical and psychosocial safety aspects, OSHMPQ explores the suitability of the construct used based on previous studies that evaluate OSHMP elements to identify the physical safety climate and the psychosocial health climate. The Rasch model analysis was used to measure the reliability and validity of OSHMPQ by evaluating item functionality in terms of item difficulty, cronbach alpha value, reliability and separation index, polarity, and item fit index and unidimensional.

KEYWORDS: Occupational safety and health, occupational safety, and health management practices, Rasch analysis model, validity and reliability.

PURPOSE AND BACKGROUND

This paper discusses a methodological process involved to design a questionnaire survey and assessing the instrument validity and reliability in a pilot study of occupational safety and health (OSH) in public academic institution research using the Rasch analysis model.

METHODOLOGY

OSHMPQ development is based on proactive indicators that evaluate OSHMP elements to identify the management practices for physical safety climate and psychosocial safety climate. The Rasch analysis model with MINISTEP software was used to measure the reliability and validity using summary statistics, unidimensionality analysis and persons-items fit measures. The OSHMPQ was distributed to 51 lecturers from 3 of 27 campuses of the Teachers Training Institute in Malaysia.

FINDINGS

Results from the person and item reliability index indicated that the OSHMP instrument was admissible and appropriate for describing OSHMP in public education institutions. Item polarity analysis shows the instrument used works in a parallel direction, but 3 items are very confusing and 6 items is very easy. The unidimensionality analysis demonstrates that the raw variance explained by the measure was 39.7%, suggesting that the items in the questionnaire were unidimensional. 2 items failed to satisfy the requirements of outfit MNSQ, outfit Z-std and PT-Measure CORR for acceptance.

CONCLUSION

This demonstrates the adoption of the idea of combining 2 work related safety characteristics toward occupational safety (physiology hazards) and occupational health (psychosocial hazards). Overall, the findings of this study are crucial for ensuring the creation of reliable and insightful OSHMP instruments for use in subsequent research.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This validity and reliability study is an initial step in assisting the researcher in identifying the level of occupational safety and health management practices for the study of occupational safety and health in the public education service sector in Malaysia. Future research suggestions for this instrument to be evaluated for respondents among civil servants in other public service sectors.

REFERENCES

- Bronkhorst, B. (2015). Behaving safely under pressure: The effects of job demands, resources, and safety climate on employee physical and psychosocial safety behavior. *Journal of Safety Research*, 55, 63–72. <https://doi.org/10.1016/j.jsr.2015.09.002>
- Hall, G. B., Dollard, M. F., & Coward, J. (2010). Psychosocial Safety Climate: Development of the PSC-12. *International Journal of Stress Management*, 17(4), 353–383. <https://doi.org/10.1037/a0021320>
- Idris, M. A., Dollard, M. F., Coward, J., & Dormann, C. (2012). Psychosocial safety climate: Conceptual distinctiveness and effect on job demands and worker psychological health. *Safety Science*, 50(1), 19–28. <https://doi.org/10.1016/j.ssci.2011.06.005>
- Neal, A., Gri, M. A., & Hart, P. M. (2000). 012 The impact of organizational climate on safety climate and individual behavior. *Journal Individual Behaviour*, 34(1), 99–109.
- Vinodkumar, M. N., & Bhasi, M. (2010). Safety management practices and safety behaviour: Assessing the mediating role of safety knowledge and motivation. *Accident Analysis and Prevention*, 42(6), 2082–2093. <https://doi.org/10.1016/j.aap.2010.06.021>

DESIGNING A CONCEPTUAL THEORY FOR TRANSFORMATIONAL LEADERSHIP, EMPLOYEE PERFORMANCE, EMPLOYEE COMPETENCE AND ORGANIZATION PERFORMANCE: A PRELIMINARY STUDY IN MANUFACTURING INDUSTRY IN BANTEN, INDONESIA

*Dani Taupan Ramdani**
Universiti Malaysia Terengganu, Terengganu

Yuany Farradia
Universiti Malaysia Terengganu, Terengganu

Juhaizi Mohd Yusof
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *danitaupan.dosen@gmail.com*

ABSTRACT

This review paper focuses on answering five questions, to what extent does a leader's transformational leadership influence organization performance?; secondly, to what extent does a leader's transformational leadership influence employee performance?; thirdly, to what extent does a leader's transformational leadership influence employee competence?; fourthly, to what extent does it influence employee performance to organization performance?; and last to what extent does it influence employee competence in organization performance?.

KEYWORDS: Transformational leadership, employee performance, employee competence, organization performance.

PURPOSE AND BACKGROUND

This review paper focuses on answering five questions, to what extent does a leader's transformational leadership influence organization performance?; secondly, to what extent does a leader's transformational leadership influence employee performance?; thirdly, to what extent does a leader's transformational leadership influence employee competence?; fourthly, to what extent does it influence employee performance to organization performance?; and last to what extent does it influence employee competence in organization performance?.

METHODOLOGY

A systematic computerized search and review of empirical papers published between January 2016 and September 2022 were conducted. Fifty papers were found that met the criteria of reporting empirical results, being published in English, and focused on answering the above research questions.

This paper explores the data from Indonesian large and medium manufacturing industrial companies. Analyzing the mentioned relationships in the Indonesian context has been done by a few researchers before. Although some conditions under which the relationship is stronger have been

examined, more research is needed on moderators. The review demonstrated the importance of moving forward in this area with a stronger research design to determine causality, specifying the outcome variable of interest, looking at the dimensions of transformational leadership separately, and testing a more complicated relationship.

FINDINGS

Based on these papers it appears that transformational leadership positively predicts and influences employee performance, employee competence and organization performance. Then employee performance and employee competence positively predict influences on organization performance.

CONCLUSIONS

This paper is a unique attempt to review the literature on four variables there are transformational leadership, employee performance, employee competence and organization performance.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This paper should make an important contribution to the development of the manufacturing industry in Banten, Indonesia. Secondly, it provides essential information that productivity is one of the critical factors in knowing the extent to which the performance growth of the manufacturing industry organization, Indonesia.

REFERENCES

- Akdere, M., & Egan, T. (2020). Transformational leadership and human resource development: Linking employee learning, job satisfaction, and organizational performance. *Human Resource Development Quarterly*, *31*(4), 393–421. <https://doi.org/10.1002/hrdq.21404>
- Alrowwad, A., Abualoush, S. H., & Masa'deh, R. (2020). Innovation and intellectual capital as intermediary variables among transformational leadership, transactional leadership, and organizational performance. *Journal of Management Development*, *39*(2), 196–222. <https://doi.org/10.1108/JMD-02-2019-0062>
- Para-González, L., Jiménez-Jiménez, D., & Martínez-Lorente, A. R. (2018). Exploring the mediating effects between transformational leadership and organizational performance. *Employee Relations*, *40*(2), 412–432. <https://doi.org/10.1108/ER-10-2016-0190>
- Peng, J., Li, M., Wang, Z., & Lin, Y. (2021). Transformational Leadership and Employees' Reactions to Organizational Change: Evidence From a Meta-Analysis. *Journal of Applied Behavioral Science*, *57*(3), 369–397. <https://doi.org/10.1177/0021886320920366>
- Siangchokyoo, N., Klinger, R. L., & Campion, E. D. (2020). Follower transformation as the linchpin of transformational leadership theory: A systematic review and future research agenda. *Leadership Quarterly*, *31*(1), 101341. <https://doi.org/10.1016/j.leaqua.2019.101341>

VISUALISING EMOTIONAL INTELLIGENCE GLOBAL SEARCH TRENDS USING BIBLIOMETRIC ANALYSIS

*Syahrir Rahman**

Universiti Teknologi Malaysia, Kuala Lumpur

Nomahaza Mahadi

Universiti Teknologi Malaysia, Kuala Lumpur

***Corresponding Author:** *srahman@graduate.utm.my*

ABSTRACT

The study of emotional intelligence (EI) is a rising trend frequently highlighted in psychology and leadership literature. EI influences performance in the workplace, academics, and personal-socio relationships. Therefore, synthesising and systematic study to understand the topic of interest and related network connections of EI are crucial to broadening the research field towards integrated efforts. The bibliometric analysis evaluates the global research trends in EI based on publication, co-authorship, affiliated countries, and author keywords. This analysis uses the Scopus database to generate data. A total of 7,795 articles published between 1966-2022 were retrieved. The result shows that cumulative publications increased from three-digit in 2001-2008 to four-digit in 2009-2022. The USA, Spain, and the United Kingdom have the highest number of publications or co-occurrences on EI, with trait EI, leadership, personality, and adolescence as the highest used author keywords besides EI. However, based on the current trend from 2018 to 2022, resilience, prosocial behaviour, sustainability, and covid-19 are high on the average citations and co-occurrences. In conclusion, the bibliometric analysis provides an overview of the current trend in the EI research field based on the keywords used in the Scopus list of published articles.

KEYWORDS: Bibliometric analysis, emotional intelligence, emotional quotient, VOSviewer, Scopus database.

PURPOSE AND BACKGROUND

Emotional intelligence (EI) could be considered a growing phenomenon even if the concept existed more than 56 years ago and only being picked up thoughtfully from 1998 onwards. EI can be broadly referred to as abilities to be aware of oneself and other people's emotions and able to regulate and use emotions to act appropriately.

Although more and more research focuses on EI, only a few are dedicated to measuring and analysing scientific publications from a global perspective. Yousaf et al. (2021) presented research trends on EI for research published during 2000-2020 that are listed in the Web of Science (WoS) database. The authors found that EI, emotion, affective computing, and artificial intelligence are the

widely used keywords related to EI research. Krishnan et al. (2020) analysed research trends on EI for publications between 1966-2018 using the Scopus database, where they found that EI, emotions, and personality were the most used key terms. Their study focuses on the research articles containing the keyword “EI” in the title and abstract. Meanwhile, Campos et al. (2018) combine EI with leadership in their bibliometric analysis using the WoS database with articles published between 1980 and 2018. Other bibliometric analyses focus on cultural EI (Olaleye et al., 2021) and education-related EI (Akbey, 2018); both analyses also use the WoS database with articles published between 2001-2020 and 1996-2018, respectively.

The objectives of this paper are i) to conduct a bibliometric analysis on temporal distribution patterns of EI journal articles using VOSviewer software; ii) to show the contributions of prolific authors, leading countries and academic institutions; iii) to highlight common terminology and research topics; iv) to determine the most dominant countries based on major applications, and v) to provide insight into potential future directions. This paper will benefit fellow researchers, policymakers, and knowledge seekers to gain from the research trends in EI and discover future research opportunities.

METHODOLOGY

Bibliometric analysis is a quantitative technic applied to bibliometric data. Bibliometric analysis assess published journals and authors’ information using a statistical and scientific computer-assisted method (Donthu et al., 2021). This approach enabled the researcher to understand the global research trends of a specific area based on the academic literature database. Therefore, bibliometric analysis differs from a review paper focusing on a particular topic’s current progress and challenges (Md Khudzari et al., 2018).

The data mining process uses the Scopus database from 1st August 2022 until 20th August 2022. The research articles contain specific keywords of “emotional intelligence” or “emotional quotient” in the title and abstract. Data publications from 1966 until 2022 were retrieved. The central analysis theme is based on the main keyword of “emotional intelligence” (EI) or “emotional quotient” (EQ). The search results were further analysed based on year, document type, and source type. As for ranking purposes, bibliometric indicators were used to identify mappings of total publications, total citations, and h-index. The most used author keywords in the EI field are also analysed, such as adolescent, trait EI, leadership, and personality.

The search result analysis is conducted using VOSviewer (version 1.6.18), a software for constructing and visualising bibliometric networks, developed by the Centre for Science and Technology Studies, Leiden University, The Netherlands. This paper uses VOSviewer to highlight the network mapping for countries, institutions, and author keywords. The mapping shows the strength

of links between each item according to their affiliations. The stronger the affiliations between items, the stronger the link.

FINDINGS

From 1966 to 20th August 2022, a total of 7,795 research articles were published. Since 1966, there has been only one publication until the topic was picked up again in 1990. The publications leapt to two-digit in 1998 with 13 publications and kept gaining momentum until 2005 to three-digit with 103 publications. Since then, the publication has increased from 100 publications a year from 2005 to 2008 to 200 publications a year from 2009 to 2010. The highest number of publications was recorded in 2021, with 855 publications.

Eight different publishers own the results for the top ten most productive journals in the area of EI. Elsevier, Frontiers Media SA, and Multidisciplinary Digital Publishing Institute (MDPI) published the top three journals. The rest are from Springer Nature, SAGE, University of Almeria, Public Library of Science, and Society for Personality Research.

The most productive journal was *Personality and Individual Differences* from Elsevier, with 324 publications covering 4.2% of the total publications. *Frontiers In Psychology* from Frontiers Media SA takes the second spot with 194 publications (2.5%), followed by the *International Journal Of Environmental Research And Public Health* (125, 1.6%), *Current Psychology* (76, 1.0%), *Sustainability Switzerland* (53, 0.7%), *Psychological Reports* (41, 0.5%), *Nurse Education Today* (40, 0.5%), *Electronic Journal Of Research In Educational Psychology* (39, 0.5%), *PLOS One* (39, 0.5%), and *Social Behaviour And Personality* (37, 0.5%).

The most productive countries with the highest total publication on EI are the USA (1,645), Spain (998) and the United Kingdom (727). Although the academic institutions' total publications (TPI) from Yale University, USA (61) is lower than the Universidad de Malaga (177), the USA have more research universities than Spain, which contributes to the high total publications overall.

Searching on author keywords trending is an excellent way to find topics of interest. The latest author keywords in 2018-2022 are topics such as COVID-19 pandemic (68 occurrences, 5.1 average citations), primary education (31 occurrences, 5.9 average citations), entrepreneurial intention (12 occurrences, 9.9 average citations), multilevel analysis (10 occurrences, 12.6 average citations), and collective EI (5 occurrences, 9.2 average citations).

Author keywords with a high number of average citations score are such as behaviour (23 occurrences, 75.7 average citations), big five models (49 occurrences, 52.1 average citations), personality (306 occurrences, 51.8 average citations), and sex (29 occurrences, 45.6 average citations). These are just a few interesting topics that can be explored further based on the author's keywords. Even the highest used keywords such as behaviour and personality are still widely researched. It shows

that recreating the keywords in a map would make knowing their occurrences and relationship strength easier.

CONCLUSIONS

This paper shows the EI research trends overview based on the 7,795 publications retrieved from the Scopus database. Research on EI has been rapid for the last five years, reaching more than 500 publications annually. The research topic can be said to keep on growing strong over the years. This paper has discussed the widely used keywords based on the EI co-occurrences such as adolescent, trait EI, leadership, and personality. The latest keywords based on the average citations were also highlighted, such as behaviour, big five model, personality, resilience, sustainability, and prosocial behaviour, to name a few.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The bibliometric analysis provides an overview of the current trend in the EI research field based on the keywords used in the Scopus list of published articles.

REFERENCES

- Akbey, M. B. (2018). Bibliometric Analysis Of Education-Related Emotional Intelligence Literature. *Research Inveny: International Journal of Engineering And Science*, 8(2), 31–38. www.researchinveny.com
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, 133(March), 285–296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
- Krishnan, H., Awang, S. R., & Zakuan, N. (2020). Bibliometric Analysis on Emotional Intelligence Research. *International Journal of Recent Technology and Engineering*, 8(6), 864–877. <https://doi.org/10.35940/ijrte.F7165.038620>
- Md Khudzari, J., Kurian, J., Tartakovsky, B., & Raghavan, G. S. V. (2018). Bibliometric analysis of global research trends on microbial fuel cells using Scopus database. *Biochemical Engineering Journal*, 136, 51–60. <https://doi.org/10.1016/j.bej.2018.05.002>
- Olaleye, S. A., Sc, D., & Researcher, P. (2021). VISUALISING CULTURAL EMOTIONAL INTELLIGENCE LITERATURE : A BIBLIOMETRIC. *Intercultural Competence at Work*, 142–156. <http://urn.fi/urn:nbn:fi-fe202101151930>
- Yousaf, F., Masrek, M. N., & Bahry, F. D. S. (2021). Emotional Intelligence: A Bibliometric Analysis and Implication for Future Research. *Library Philosophy and Practice*, 2021, 1–31.

FACTORS AFFECTING ACCEPTANCE-INTENTION-PURCHASE AND SATISFACTION ON SMARTWATCH USAGE AS AN APPLIED ARTIFICIAL INTELLIGENCE IN A DEVELOPING COUNTRY

*Md. Uzir Hossain Uzir**
Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *uzir.hossain@umt.edu.my*

ABSTRACT

Technology and its continuous advancement facilitate human beings to get rid of their criticality and limitation. Applied artificial intelligence (AAI) is one of the latest forms that delimited the limitation of human beings. Smartwatch acts as an applied artificial intelligence to assist various patients to check medical care without going to hospital and physicians. To find the actual application of this device in real life this research conducted a multiple study to investigate the intention of Ghanaian elderly people to purchase, use and their satisfaction.

KEYWORDS: Applied artificial intelligence, S-O-R model, technology adoption, positive word of mouth, healthcare service.

PURPOSE AND BACKGROUND

Technology reaches every dimension of our lives including individual and group life (Griffy-Brown *et al.*, 2018). It plays an alternative role for a human being in the sense of intelligence or physical power. Gradually people start believing machines as human beings. Artificial intelligence (AI) is one form of technological advancement over periods, which is known as an emerging technology (Longo, 2019; Hradecky, 2022) being is automotive, transport and logistic, phramceuticals, agriculture, and manufacturing (Collins *et al.*, 2021). AI is "*the natural predispositions, genetic inheritance or learned skillsets forming the core of individual personalities*" (Vishnoi *et al.*, 2018a). AI works as the human brain in the decision-making process based on computers' predefined programs and algorithms (Advani, 2021). AI solves the most critical thinking process including medical treatment, meteorological observation, mathematics, oceanological observation, and so on, where the human brain might not work or enter. This AI has been developed and advanced to build usable, portable and cheap to deal with a human daily life issue. It is self-administered and multiple facilitated.

Alike, AI device works according to people's requirements (Collazos *et al.*, 2019) and specifies their tailor-made need (Uzir *et al.*, 2021). The advancement wave in AI touches every aspect of the health sector (Longoni *et al.*, 2019) and in health applications (Pesapane *et al.*, 2018). For example, the Watson computer system can diagnose diseases (Hutson, 2017), Chatbot, a text-to-speech computer application that can provide health advice (O'Hear, 2017) and SkinVision application can

identify human skin cancer (Haenssle *et al.*, 2018). Abramoff *et al.*, (2018) illustrated that AI applications can detect diseases more efficiently than human physicians. In view of its accuracy, reliability, and cost-effectiveness, AI is getting more popular among the common people (Longoni *et al.*, 2019).

In the other study, Reeder and David, (2016) enlightened the use and benefits of a smartwatch as an AI-enabled medical tool that patients can check their health condition, detect diseases and get instant guidance. As a micro-computer, the smartwatch has multiple functionalities (smartphone, watch, music tool, etc.) allowing the patients in detecting blood pressure, diabetic conditions, heart rates, and other health concerns (Abbasi *et al.*, 2021; Uzir *et al.*, 2021). Among these advancements, the smartwatch version to deal with instant medical recommendation facilities is very popular. Thus, the adoption trend is also at its peak (Uzir *et al.*, 2021). These well-said stories were from developed economies. However, the AI-enabled medical device at a personal level is quite rare in developing economies, in third-world countries.

This research focused on the intention to use, purchase, and their satisfaction and spread positive word of mouth among others in the context of Ghana, a developing country. Thus, this research attempted to answer the following questions in multiple studies: a) What drives elderly consumers' intention to purchase and use smartwatches for their healthcare? b) What factors actively influence the intended customers to purchase and use smartwatches for their healthcare? and c) To what extent this device satisfies these customers and do they share positive WOM with others?

The study applies multiple theories in three studies. For the adoption intention of smartwatch and its purchase (first two studies), TAM theory was adopted with two constructs "perceived self-efficacy" and "perceived financial cost" adopted from perceived behavioural control in the Theory of Planned Behaviour (TPB). The study also utilized the Stimulus-Organism-Response (S-O-R) theory to examine the impact of perceived quality, perceived value, and user experience as stimuli on user satisfaction (organism). A user's positive WOM is hypothesized as a response or reaction to the stimulus of the predictor. Significantly the fear of pandemic was checked to find the level of loyalty (word of mouth).

METHODOLOGY

These multiple studies were conducted in Ghana with the elderly people who are suffering one or more of these three diseases- diabetes, blood pressure, heart disease. In these studies, Ghanaian respondents were contacted using email and various social media groups (WhatsApp, Facebook, FB Messenger, LinkedIn, etc.) to answer three different structured questionnaires (Google Forms): 550, 320, and 170 respondents, respectively due to COVID-19. These questionnaires were adapted from the existing literature. We collected these data Among 1500 samples which was arranged from Govt.

and hospitals' database. Ethical standard for survey and data collection were followed strictly. The collected data were analyzed using SPSS, SmartPLS and MS Excel.

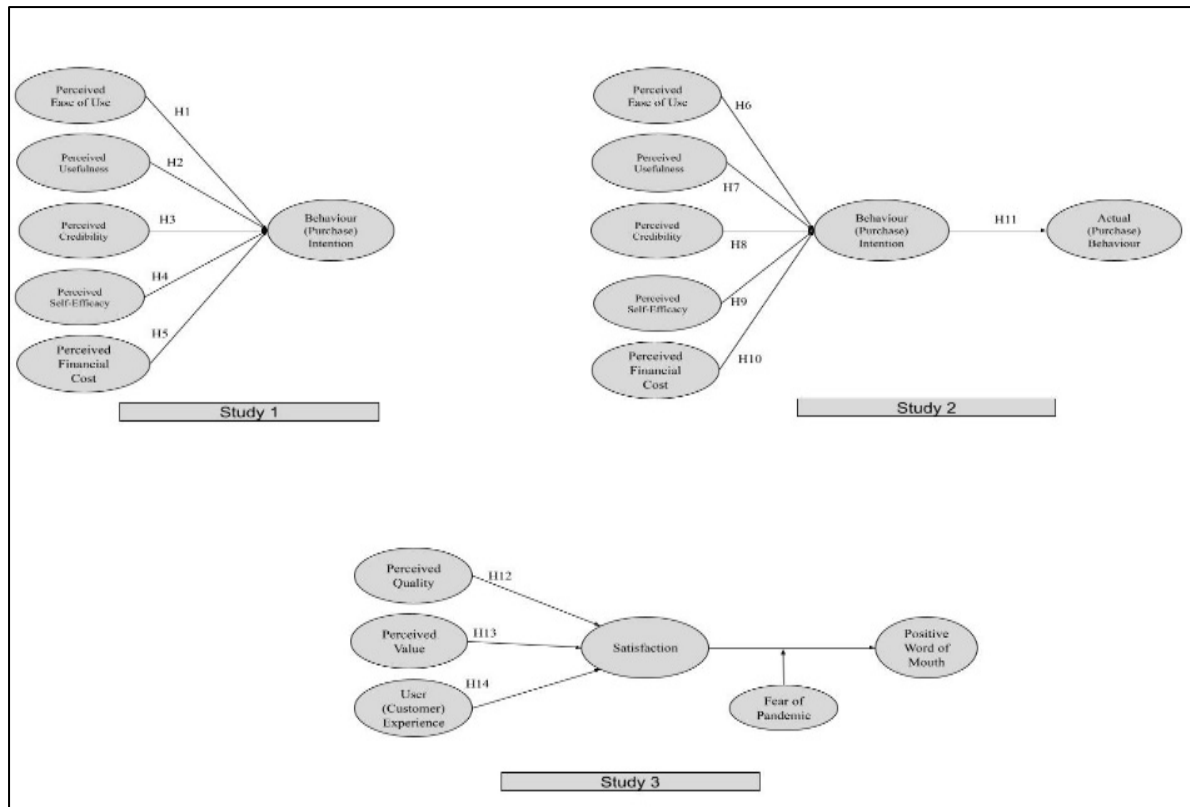


Figure: Research Model

FINDINGS

The multiple research work has three studies- the first study investigated the intention of Ghanaian elderly people to purchase and use AI-enabled smartwatch considering Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Perceived Credibility (PC), Perceived Self-Efficacy (PSE), and Perceived Financial Cost (PFC). The results showed these predictors are significant in increase the interest to purchase and use of this device. The second study inspected whether these intended people actually bought this device for their healthcare. This also found that intended people were influenced to purchase and started using this AI-enabled smartwatch. The final study examined the extent to which the users are satisfied with this device for their healthcare on the basis of device quality, its service level, their usage experience, perceived value, and the extent to which the satisfied customers made positive word of mouth to their friends and family, colleagues and followers. It was found that these predictors are significantly influential on the satisfaction and on the positive word of mouth. The current investigation empirically explores the viability of the adoption of smartwatches in healthcare.

A combined model that includes the TAM model and S-O-R theory concepts through features was employed to verify the usage of smartwatches. Particularly, as stated this research conducted multiple studies in a attempted to answer the research questions. If the customers find that the device

is easier to use with its usefulness they expect to purchase it. Elderly people expect a user-friendly device, which is available using a smartwatch. Besides, they also expect that the report or outcome of the smartwatch must be reliable and credible. As this device is a healthcare issue, it is expected to show more reliable, accurate and timely information about their health condition. The smartwatch's autonomy, automation, and user-friendliness assure the users that elderly people can handle it easily. The smartwatch is a newly innovated device, which incurs a cost. However, the price of this tool is reasonable compared to the treatment cost or physician visit cost. As it was found reliable, useful and a required device, they purchase and used it which is shown in the second study. It implied that intended customers were interested and finally purchase this device so that they could check their health conditions avoiding going to doctors frequently. The customers used this device for healthcare during the COVID-19 pandemic when physical dimensions and social distance were imposed. In the third study, these findings implied that customers felt that the cost-benefit ratio was positive for their use of smartwatches. Physical product quality, functionality, colour, design, and manufacturing elements were pleasant to the users. Intangible services such as reliability, result reading, convenience, accuracy, battery charging, and customer service from the company were favourable to them. Using this device created a positive impression among the users. The accuracy and precision of AI technology enhance user experience, confidence and understanding (Ameen et al., 2020). As AI-enabled devices used in medical services and healthcare can outperform human physicians in making precise measurements to detect diseases (Gärtner *et al.*, 2020), customers will more likely have a positive experience. Importantly the higher the patient has fear of pandemic the greater they will use this device and inspires others to use it.

CONCLUSIONS

This study is significant in understanding the usage of AI-enabled smartwatches as a device doctor or electronic doctor (e-doctor). This finding contributes to understanding user satisfaction, specifically older people, in maximizing their use of AI-enabled technology for healthcare and other related issues. As AI technology continues to proliferate and essential services such as health are increasingly democratized, the ability to self-manage healthcare will become indispensable. Brands should find ways to make their products and services more malleable by understanding user behaviours and usage patterns to ensure effective usage and user satisfaction.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This study gives an implication to Ghanaian and other developing economy contexts. As the elderly people are increasing in developing countries like Ghana and other sub-Saharan Africa, the number of NCDs is also increasing, especially diabetes, cardiovascular diseases and high blood pressure. Thus,

the intention to use and actual use of this device has a demand among the common elderly people. To those who expect to manage and attend to healthcare immediately and efficiently, AI-enabled smartwatches have been prioritised. The outcomes of this study will support efforts to integrate AI into wearable smart devices to allow users to be self-dependent in managing their health. Besides, AI has the potential to improve living and working conditions (Hradecky, 2022). Furthermore, the finding that users are satisfied and accustomed to using these devices to access health services is considered significant and affirms that users are becoming accustomed to personalized technology and the evolving digital environment (Foroudi *et al.*, 2018).

Based on these findings, smartwatch brands should continue to improve upon their products' functionalities such as customized size, suitable colour, lucrative model, easy button, longer battery duration, inter watch connectivity, result sharing, etc. Healthcare features such as automatic temperature signature, blood pressure signal and ease of use are important to be incorporated into the smartwatches. Besides, these features and functionalities brands should highlight result reliability and privacy through self-management of the healthcare services. Moreover, while creating new wearable technology (e.g., smartwatches) expressly for the medical industry, wearable technology developers can benefit from this investigation. The use of wearable technology must benefit patients, practitioners, and the healthcare sector as a whole. It is crucial for developers to take into account the features that doctors need in wearable technology in order to persuade doctors to voluntarily accept such new technology. Doctors should be aware of the features that wearable technology should have in order for them to use it. Technology developers need to exercise more caution when creating features with important and time-sensitive functionalities. Users' decisions to adopt and use technology are heavily influenced by how well these critical processes work (Uzir *et al.*, 2021; Elnagar *et al.*, 2022). Thus, Users are more likely to use technology frequently when it successfully completes certain tasks (like quick access to accurate information). Likewise, when the capabilities of smartwatch fully met each user's specific demands, wearable technology was used effectively by both doctors and patients (Sepasgozar *et al.*, 2020). It is imperative that managers of wearable technology develop and change the characteristics in line with the requirements of the end-users in order to improve acceptability between the functionalities given by technology and the requirements of the medical profession. Both sides will need this compatibility between user requirements and technology design in order for the core goal that motivated the creation of such gadgets to be achieved (Pandey *et al.*, 2022).

The management of hospitals ought to be determined by suggestions to follow while attempting to advance the usage of technology since allied technological applications determination also be endorsed as a consequence of the practise of smart technology in numerous sections of hospitals. The

usage of various smart watches devices with phone-based functions is however advocated for individuals. The findings also indicated a huge gain for medical professionals and patients (Mauldin et al., 2018). For instance, smart technology has played a major presence in the healthcare industry. This needs the integration of different capabilities to smart watches which will aid patients and doctors alike. According to the investigation, advisors, doctors, and other medical professionals should be given instructions for using smart technology effectively for diverse medical applications. Therefore, doctors should incorporate these qualities in order to persuade patients to utilize technology devices because different influences, such as contents richness, satisfaction, and experiencing flowing, are particularly important to convince users of technology to accept and adopt it (Uzir et al., 2021). Besides this, fear of pandemic has significant influence on their satisfaction and positive word of mouth.

REFERENCES

- Ameen, N., Tarhini, A., Reppel, A., & Anand, A. (2021). Customer experiences in the age of artificial intelligence. *Computers in Human Behavior*, 114, 106548.
- Collins, C., Dennehy, D., Conboy, K., & Mikalef, P. (2021). Artificial intelligence in information systems research: A systematic literature review and research agenda. *International Journal of Information Management*, 60, Article 102383.
- Pandey, B., Chakraborty, S., & Kumar, V. (2022). Role of artificial intelligence in healthcommunication: With special reference to smartwatch technology. *International Journal of Health Sciences*, 6(S1), 11872–11892.
- Uzir, M. U. H., Al Halbusi, H., Lim, R., Jerin, I., Hamid, A. B. A., Ramayah, T., & Haque, A. (2021). Applied Artificial Intelligence and user satisfaction: Smartwatch usage for healthcare in Bangladesh during COVID-19. *Technology in society*, 67, 101780.
- Yu, C. (2012), "Factors affecting individuals to adopt mobile banking: empirical evidence from the UTAUT model", *Journal of Electronic Commerce Research*, Vol. 13 No. 2, pp. 104-121.

FACTORS INFLUENCING YOUTH FAST FOOD CONSUMPTION

Nur Amerah Nabihah Mohd Nazri
Universiti Teknologi MARA, Selangor

Kyirin Khalisah Mohamad Nizam
Universiti Teknologi MARA, Selangor

Nor Syafiqah Nasran
Universiti Teknologi MARA, Selangor

*Norzaidah Ngali**
Universiti Teknologi MARA, Terengganu

Norazlina Rahmat
Universiti Teknologi MARA, Selangor

***Corresponding Author:** *norza319@uitm.edu.my*

ABSTRACT

There is an increase in the number of fast food restaurants all over the world, indicating that there is always a demand for fast food. This is because fast food caters to all demographics by providing interesting and appetising food options. Furthermore, fast food is always associated with youth. Based on the abovementioned, the researchers reviewed previous studies to learn more about the factors influencing fast food consumption among youth. Therefore, the purpose of this study is to identify the factors that influence youth fast food consumption and to investigate how price, product quality, atmosphere, and advertising influence youth fast food consumption. An argumentative research strategy was used, with secondary data used to review the findings of previous related studies. Based on the finding, previous research has shown that price is the most important factor influencing youth fast food consumption. Other factors, such as product quality, atmosphere, and advertising, do, however, influence youth fast food consumption. The relationship of the factors, on the other hand, is dependent on the context of each study. It is hoped that this paper will fill a gap from the perspective of youth from various countries. Furthermore, it will add to the existing body of knowledge on the factors influencing youth fast food consumption.

KEYWORDS: Fast food consumption, price, product quality, atmosphere, advertising

PURPOSE AND BACKGROUND

People in their twenties are more likely to frequent fast-food restaurants because they are less expensive and provide an environment where they can relax and escape their daily pressures (Saxena

and Taneja, 2020). When it comes to consuming fast food, the tastiness, tastes, temperature at which it is served, and freshness of the components that contribute to good food quality is essential in influencing youth consumption (Hongrimumuang et al., 2020). Teenagers are particularly receptive to food advertising messages (especially for unhealthy foods) due to developmental deficiencies and peer pressure (Truman and Elliot, 2019). A youth's decision is based on a combination of elements that attract youth to a specific restaurant (Saxena and Taneja, 2020). Between 2015 and 2018, 36.3 per cent of the youth aged 2–19 years consume fast food on any given day. 11.1 per cent of the youth consume less than 25% of their daily calories from fast food, 13.8 per cent consume 25%–45% of their daily calories from fast food, and 11.4 per cent consume more than 45 per cent of their daily calories from fast food (Fryar et al., 2020). Even though television has traditionally been the primary medium through which food companies advertise to youth, evidence suggests that companies are shifting their ad spending in favour of digital marketing. Digital marketing employs a various promotional techniques to reach and engage youth online, particularly on social networking platforms (Kent, 2019). The use of characters to encourage fast-food sales to youth is a persistent approach used by the marketing industry, and it is an effective tool (Fulkerson, 2018). To know more about the factors on fast food consumption among youth, the researchers made further reviews based on previous related studies. The study's goal is to identify the factors that influence youth fast food consumption and to examine how price, product quality, advertising, and atmosphere influence youth fast food consumption.

METHODOLOGY

The argumentative research design was employed, where the researchers used secondary data to analyse the findings from previous related studies. Secondary data retrieved by researchers to achieve the research objective came from Google Scholar, Emerald, Science Direct, and other sources. For proposed data analysis, researchers collect data using Literature Review Matrix as a procedure to collect related secondary data from previous related research. The researchers uses content analysis to measure and analyse the existence, meanings, and relationships of specific words, themes, or concepts in order to examine and argue the previous study's conclusions.

FINDINGS

The first main factor is price. Youth typically desire to have something tasty to consume while still saving money for themselves. Compared to stores offering local food, most fast-food restaurants now provide packaged value meals, which are more economical for youth. Most previous studies found fast-food consumption among youth because of its cost-effectiveness research by Saha et al., 2021; Zhong and Moon 2020; Hanaysha and Pech 2018; Sudiyarto et al., 2018; Blešić et al., 2018. According

to Saha et al. (2021), the price of fast food is pocket-friendly, which means that it corresponds to a low-cost product. Zhong and Moon (2020), admit that affordable pricing has a direct impact on customer impressions of restaurant quality and customer loyalty. This claim is also corroborated by a previous study by Sunaryo (2019), which found that price significantly impact consumer loyalty. Akhter (2017) agrees that when university students decide to consume fast food, the price is the most important aspect. Price is also a consideration, according to the researchers, because students want food that is both affordable and filling. Besides, they may mix and match a variety of options when dining at a fast-food restaurant. They will never get tired of consuming fast food for example, chicken nuggets, chicken burgers, and fries. Findings from Dowarah et al. (2020), claim that money is the most important element influencing students' attitudes about fast food. Moreover, fast food fits all of the needs of youth due to their poor income, lack of cooking self-efficacy, and preference for taste and convenience. He found that price can influence youth to patronise fast-food outlets. This finding proves that there is a relationship between price and youth fast food consumption. Therefore, all the previous researchers in Asia, South Asia, and East Asia agreed that price is the major factor in youth preference for fast food consumption.

The second factor that the researchers retrieved from the past articles is the product quality. Although it may appear that price is the most important element influencing the youth's decision to eat fast food, product quality is also a major motivator for them to do so. The findings from Hongsrimuang et al. (2020) and Cahyani and Iriani (2019) agreed that product quality has the most significant impact on young people's decision to eat fast food. Compared to the other variables, product quality is said to be the crucial factor that influences the youth's fast-food consumption. On top of that, according to findings by Xiao (2018), food quality is the most critical element influencing purchase intent in all businesses. Sunaryo (2019) and Wan Farawahidah et al., (2022) findings, on the other hand, disagree that product quality is the most crucial element influencing youth's decision to eat fast food. The findings of this study suggest that neither the quality of the meal nor the quality of the service has a significant impact on customer satisfaction since respondents appear to be unconcerned with fast food product quality. In addition, studies from Saxena and Taneja (2020) also proved to agree with Sunaryo (2019). According to the findings, fast food restaurants should compete not only on product quality but also on other criteria highlighted by the study. In addition, restaurant owners and managers should focus on expanding the variety and quality of their meals by considering elements such as freshness, flavour, and personal presentation, according to Hanaysha and Pech's (2020) findings. To summarize, the findings from the literature demonstrates that there is a link between product quality and youth fast food consumption. Most of the previous studies by Hongsrimuang et al. (2020), Cahyani and Iriani (2019), Xiao (2018), and Hanaysha and Pech (2020)

agrees that product quality is a factor that influences the youth's fast food consumption, despite the findings of Sunaryo (2019), and Saxena and Taneja (2020).

The next factor that researchers discovered from previous studies is the atmosphere. The research by Chun and NyamOchir (2020), Hongsrimuang et al. (2020), Hanaysha and Pech (2018), Akhter (2017), Sudiyarto et al. (2018), and Saxena and Taneja (2020) agreed that atmosphere is one of the factors that influence youth's decision to consume fast food. The study by Chun and NyamOchir (2020) showed perceptual disparities between customers who have more access to numerous franchises and those who do not. Despite that, the atmosphere is still categorised as essential for fast food restaurants. Moreover, findings from Hongsrimuang et al. (2020), Hanaysha and Pech (2018), and Akhter (2017) agree that atmosphere is one of the factors influencing youth fast food consumption since they prefer to consume in a clean and comfortable environment and fast-food restaurants provide that. Other than that, Sudiyarto et al. (2018) also mentioned that fast-food restaurants' comfort and interior design influence the consumers' decision to buy food. However, findings from Blešić et al. (2018) revealed that atmosphere is one of the least important factors in Novi Sad because fast-food providers place a greater emphasis on food quality, proximity, and cleanliness of restaurants, kitchens, and service people. Nevertheless, even if a study from Blesic et al. (2018) disagrees, the main findings from Saxena and Taneja (2020) show that atmosphere is the second highest factor that influences the youth's choice of fast food consumption. The reason is that they want to brighten up their mood with their friends and family, so the youth emphasize the atmosphere over the quality of the dish. It proves that there is a relationship between the atmosphere and youth fast food consumption because the majority of prior authors believe that atmosphere is a factor that influences the youth's consumption of fast food.

The last factor that plays a role in influencing fast food consumption among youth is advertising. Bragg et al. (2019) agreed that social media commercials for food, beverages, and snacks are more effective than food advertising on television due to their subtle and interactive nature that influences youth's consumption and purchases of food, beverages, and snacks. In fact, surveys reveal that the excessive usage of interactive material in social media food advertising for youth who use social media often is concerning. This age group tends to receive compelling messages in food advertising. Truman and Elliot (2019) also agreed that advertising is one of the factors contributing to Canadian youth's fast food consumption, saying that youth could be affected by television advertising and social media. Given the growing popularity of social media / mobile devices, including targeted and personalized advertising, in the age group, there is a need for global digital surveillance marketing for children under the age of 17. Furthermore, findings from Sudiyarto et al. (2018) agreed that advertising significantly impacts consumer fast food consumption. Henceforth, the authors found that

promotions in the form of advertising, particularly through social networking, have a considerable impact on the choice to acquire products. On top of that, Nelson et al. (2020) said that food advertising in Jamaica claimed to play a role in influencing purchasing and consumption. Thus, unhealthy food such as fast food received considerably more advertising than healthier foods and beverages. In addition, findings from Mokhtar et al. (2020) also agree that when it comes to fast food, advertising has a big impact on consumers' purchasing decisions since it is an effective marketing tool for the fast-food industry to influence consumers to purchase fast food. To sum up, this proves that there is a relationship between advertising and youth fast food consumption since all of the previous studies, Bragg et al. (2019), Truman and Elliot (2019), Sudiyarto et al. (2018), Nelson et al. (2020), and Mokhtar et al. (2020) agreed.

To summarise, all of the factors from the previous related study have been shown to have an influence on fast food consumption among youth. Price, product quality, atmosphere, and advertising all influence youth fast food consumption. The relationship of the factors, however, is dependent on the setting for each study.

CONCLUSIONS

The main objective of the study is to identify the factors that influence youth to consume fast food based on previous studies. The researchers' hope for this study is to fill in the gap from the youth perspective of fast food consumption, improve regulations of fast-food organisations, and understand the factors influencing fast food consumption among youth. Most customers, especially youths and college students, consume fast food during their lunchtime and become accustomed to its flavour. Quitting anything tasty, fast, trendy, and nutritious qualifies as food convenient. Factors including price, product quality, atmosphere, and advertising are why youth consume more fast food meals. They prefer these establishments because fast-food restaurants successfully adapt to the requirements and expectations of youth. Fast-food restaurants meet these needs by providing a low-cost yet good quality product, a pleasant ambience, and effective advertising based on their promotional strategy. Future studies could conduct primary research to obtain more precise data or look into peer or family attitudes that influence youth's fast-food consumption.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This paper will help practitioners and businesses better understand the factors that influence fast food consumption among youth as well as guide practitioners and industries on effective fast-food marketing methods to attract youth using the factors offered. This new understanding of a phenomenon can be added to the body of knowledge on the factors that influence fast food consumption among the youth.

REFERENCES

- Dowarah, L. J., Bhowmick, D. R., & Chakraborty, S. (2020). Fast Food Consumption Behaviour among College Students- A Case Study in Tinsukia. *Current Research in Nutrition and Food Science Journal*, 371–379. <https://doi.org/10.12944/crnfsj.8.2.02>
- Hongsrimuang, N., Nuangjamnong, C., & Dowpiset, K. (2020). Factors influencing teenager's perception on food quality and service quality at drive thru fast food restaurants in Bangkok: Case study of Thai teenagers in Bangkok. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3787508>
- Saxena, Noopur; Taneja, Mayur (2020). Youth preferences for the fast-food industry: a conjoint approach. *International Journal of Public Sector Performance Management*, 6(4), 456–. [doi:10.1504/ijpspm.2020.109302](https://doi.org/10.1504/ijpspm.2020.109302)
- Truman E, Elliott C. (2019). Identifying food marketing to teenagers: a scoping review. *Int J Behav Nutr Phys Act*. 2019;16(1):67.
- Wan Nor Farawahidah, M.K., Mohd Hairi, J., Azila, A., & Ahmad Esa, A.R. (2022). Attributes Affecting Quick Service Restaurant Revisit Intention among Student of Higher Learning Institutions. *ESTEEM Journal of Social Sciences and Humanities*. 6(1), 30-46).

SUSTAINING BUSINESS DURING THE PANDEMIC: CASE STUDIES AMONG MUSLIMPRENEURS

*Siti Nurulhuda Nordin**

Universiti Sains Islam Malaysia, Negeri Sembilan

Norasikin Hj Salikin

Universiti Sains Islam Malaysia, Negeri Sembilan

Ummi Salwa Ahmad Bustamam

Universiti Sains Islam Malaysia, Negeri Sembilan

Syariah Abdul Shukor

Universiti Sains Islam Malaysia, Negeri Sembilan

Intan Fatimah Anwar

Universiti Sains Islam Malaysia, Negeri Sembilan

***Corresponding Author:** nurulhuda@usim.edu.my

ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) must adjust their actions appropriately to remain resilient during any crisis. It is believed that pivoting may assist MSMEs in adapting to new trends during the crisis, which is aligned with Strategic Thrust I of Shared Prosperity Vision 2030 which is to restructure the business and industry ecosystem and Sustainable Development Goals (SDG) 8 of Decent Work and Economic Growth, as MSMEs contribute 50% of Malaysia's GDP (GDP). The 2020 global health crisis caused by COVID-19 had disrupted most of business operations. MSMEs were among those who suffered. According to statistics, at least 2,713 Malaysian MSMEs closed their doors between March and October 2020. They need more time to recover and grow after the crisis because it affected them so severely. This research aims to investigate Muslimpreneurs' experiences in sustaining business during the pandemic using the four *Mizan* principles (*al-huriyyah*, *al-ubudiyah*, *al-syura*, and *al-musawah*) to better understand the process of business pivoting strategies used by these Muslimpreneurs. For this study, five interviews were conducted with Muslimpreneurs in Malaysia's central region.

KEYWORDS: COVID-19 Pandemic, Muslimpreneur MSMEs, Mizan Principles, Business Pivoting Strategies, Case Studies.

PURPOSE AND BACKGROUND

The COVID-19 pandemic has resulted in new legal restrictions and orders imposed by many countries to halt the pandemic spread. This has had a significant impact on Malaysia's micro, small, and medium-sized enterprises (MSMEs). According to the Malaysian SME Association, 25% of Malaysia's MSMEs are at risk of closure, with 2,713 MSMEs closing since March 2020. Bernama (2020) also reported that the food and beverage industry lost 90% of its revenue during the Malaysian Movement Control Order

phase (MCO). Although the majority of MSMEs cater to domestic demand, the Malaysian government's standard operating procedures have had a significant impact on them. Few issues have been encountered by MSMEs, the most serious of which are financial hiccups involving revenue drops and sales declines when businesses must close due to movement control orders (MCO). The financial impact on business has resulted in salary reductions and, in the worst-case scenario, employee termination. Next, in terms of the operation time, boundary areas, and staff scarcity, business operations, and supply have shrunk (Che Omar et al, 2020; Hamdan et al, 2021). During MCO, the government regulated limited business hours to ensure public stay-at-home time and movement restrictions across districts and states (Che Omar et al, 2020; Fabeil, N. F., Pazim, K. H., & Langgat, J., 2020; Hamdan, N. H., Kassim, S., & Lai, P. C., 2021). Customers' preferences have shifted, and their spending has decreased because of the pandemic's stress. Furthermore, customers have shifted to e-commerce transactions to obtain products and services by adapting to technological platforms.

Many MSMEs have not fully benefited from government digitalization initiatives due to a lack of talent, skills, and capital to invest in digital and e-commerce platforms (Tong et al, 2020). The high commission fees and costs associated with digital marketing cause MSMEs to be hesitant to adopt digitalization, and the extension of the MCO period will jeopardize and place MSMEs in a difficult stage, such as business closure and bankruptcy. Hence, the purpose of this research is to provide lessons for other Muslimpreneurs, particularly those in the service industry. The service industry identified based on function-based classification of distributive services (transportation, communication, commerce), producer services (finance, professional), social services (health, education, defense) and personal services (domestic, hotels, restaurant, leisure) (Browning and Singleman, 1975).

METHODOLOGY

Data was gathered through in-depth interviews with selected Muslimpreneurs MSMEs from the services sector who successfully managed and survived the COVID-19 pandemic. Participants were chosen from the central region (Melaka, Negeri Sembilan, Selangor, Putrajaya, and Kuala Lumpur) and other relevant states (with suitable Muslimpreneurs MSMEs). Furthermore, the four *Mizan* principles (*al-huriyyah*, *al-ubudiyyah*, *al-syura*, and *al-musawah*) were used in this study to understand the process of business pivoting strategies used by these Muslimpreneurs. Studies of the entrepreneurial process are the best way to comprehend the business's journey (Gartner & Birley, 2002). The results of each interview were transcribed immediately following each session.

Case studies can be individuals, organizations, groups of people, or programs (Merriam, 2009). This study's unit of analysis will be Muslimpreneurs MSMEs. This study used a purposeful sampling strategy to ensure an in-depth understanding of the issue and was conducted through interview using semi-structured questions. Following that, the data from the interview were analyzed using Yin's five-phased cycle, which includes (1) compiling, (2) disassembling, (3) reassembling (and arraying), (4)

interpreting, and (5) concluding (Yin Robert, 2011). The written case study will provide lessons learned from the interviewee's unique experiences (Yin, 2009).

FINDINGS

The study's findings will serve as a lesson for other MSMEs in preparing for and managing future crises. Based on the findings of this study, several factors contributed to the success of the businesses, including the nature of the business, the characteristics of the Muslimpreneurs, external support, and strategic management. The nature of business refers to the characteristics of the MSME, such as business type, number of employees, technology, and so on. The Muslimpreneur characteristics include business owner characteristics such as the number of years in business, gender, and working experience. In addition, Muslimpreneurs' attitudes and behaviors in dealing with crises are based on *Mizan* principles (*al-huriyyah*, *al-ubudiyyah*, *al-syura*, and *al-musawah*). External support is defined as the relationship and assistance received by the business from governmental institutions and other entities involved in the Muslimpreneur ecosystem. Finally, strategic management refers to the strategies implemented by a company in terms of its operations, business direction, and ability to respond to a crisis.

The following table shows a brief description of the five entrepreneurs interviewed for the paper.

Name/ Co.	Nature of Business	Location	Co. Est.	Before Pandemic	During Pandemic	After Pandemic
SAS	Automotive repair and maintenance (Distributive service)	Ampang, Selangor	2010	Operate two branches in Sepang and Ampang Just opened one branch at Sepang before COVID-19	Need to shut down the new branch due to lack of staff, demand	Just focusing on one main business at Ampang
HPS	Florist and café (Personal services)	Bandar Baru Bangi, Selangor	2015	Florist spa service	Florist barista cafe	Florist, event management and barista café Infaq movement
SS	Groceries store (distributive services)	Bandar Baru Nilai, Negeri Sembilan	2014	Started with supplement products frozen food	Moved to a new shop lot Focused on frozen food Supply staple food	Moved and expand to new shop lot Cooperate with mosques for community programs

					(one-stop-center)	(food bank coupon) Transition from Enterprise to Sdn Bhd
KMI	Homestay and camp (Personal services)	Jasin, Malacca	2006	Started as a training camp In 2009 expanded to homestay (Community-based tourism) event management	Provide accommodation for factory workers due to social distancing requirement Maintenance for homestay and camp facilities	Business as usual – training camp, homestay, camp facilities and event management
LM	Laundry service (Personal services)	Salak Tinggi, Selangor	2012	Operated in a business premise Mini library at premise	Operated from home Pick-up and delivery service	Extend to carpet cleaning service Involve in event management services Provide assistance for flood victims (cleaning carpets and clothes for free)

MSMEs should focus on balancing their business. Successful Muslimpreneurs are motivated by a great desire to help and serve others through their products and services. MSMEs will succeed to the extent that it adds value to the marketplace and at the same time balance their focus on the world and left some for the hereafter. The greater the value you supply, the greater the profit which can be gained now and hereafter.

The list below is how muslimpreneurs embrace *Mizan* principles in their business.

Al-Syura	Al-Hurriyyah	Al-Ubudiyyah (Self-service to Allah SWT)	Al-Musawah
(Consultation) with their stakeholder (SS) Discuss with customers, donors, mosque	(Freedom) in pivoting business and finding ideas for sustaining their business (HPS) - Close SPA, Operate Barista Café, Infaq movement (SS) – Focus on frozen food, add on Staple food, Foodbank coupon (LM) – Operate from Home, pick up/delivery service, carpet cleaning, flood relief	Check and balance business transactions and revert back to Allah (SAS) – close down one branch and focus on one lessen the operation cost. (KMI) – event management (weekly Yassin and mulk on Thursday and Friday by nearby Islamic Religious School (LM) – operate from home, assist flood victim in Sepang and Salak Tinggi	(Equality) facilitates access to existing knowledge and creates new knowledge/skills (HPS) – Operate Barista Café and bottle coffee brew, handling event management (LM) – learn to operate carpet cleaning service, and handle event management event space in Sepang to brush up communication skills.

CONCLUSIONS

As mentioned earlier, the purpose of this research is to investigate Muslimpreneurs' experiences with staying in business during a pandemic. Based on the findings of this study, several factors contributed to the success of the businesses. As a result, the case studies that were developed can assist MSMEs in developing critical business strategies to deal with difficult times during and after the crisis. The case studies are to map the resilience strategies as well as dynamic business structures and models aimed at improving MSME performance and supporting the country's economic development progress.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The lessons learned from this study will be useful to other MSMEs dealing with crises in their businesses.

ACKNOWLEDGMENT

This research is funded by Ministry of Higher Education of Malaysia under the Fundamental Research Grant Scheme, (FRGS/1/2021/SS01/USIM/03/1).

REFERENCES

- Browning, H., & Singelmann, J. (1975). *The Emergence of a Service Society: National Technical Information Service*. New York: Springfield Virginia Press
- Che Omar, A. R., Ishak, S., & Jusoh, M. A. (2020). The impact of Covid-19 Movement Control Order on SMEs' businesses and survival strategies. *Malaysian Journal of Society and Space*, 16(2). <https://doi.org/10.17576/geo-2020-1602-11>

- Fabeil, N. F., Pazim, K. H., & Langgat, J. (2020). The Impact of Covid-19 Pandemic Crisis on Micro-Enterprises: Entrepreneurs' Perspective on Business Continuity and Recovery Strategy. *Journal of Economics and Business*, 3(2). <https://doi.org/10.31014/aior.1992.03.02.241>
- Gartner, W. B., & Birley, S. (2002). *Introduction to the special issue on qualitative methods in entrepreneurship research*. *Journal of Business Venturing*, 17(5), 387–395. doi:10.1016/s0883-9026(01)00077-5
- Hamdan, N. H., Kassim, S., & Lai, P. C. (2021). The Covid-19 Pandemic Crisis on Micro- Entrepreneurs in Malaysia: Impact and Mitigation Approaches. *Journal of Global Business and Social Entrepreneurship (GBSE)*, 7(20), 52–64.
- Portuguez Castro, M., & Gómez Zermeño, M. G. (2020). Being an entrepreneur post-COVID-19 – resilience in times of crisis: a systematic literature review. *Journal of Entrepreneurship in Emerging Economies*. <https://doi.org/10.1108/JEEE-07-2020-0246>

THE EFFECTS OF PERCEIVED RISKS TOWARD CONSUMER INTENTION IN PURCHASING HEALTHCARE PRODUCTS VIRTUALLY

Nur Aqilah Alias

Universiti Malaysia Terengganu, Terengganu

*Nur Amalina Mohamad Zaki**

Universiti Malaysia Terengganu, Terengganu

Zuha Rosufila Abu Hasan

Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *amalina@umt.edu.my*

ABSTRACT

Since the outbreak of COVID-19, consumers have been experiencing panic buying which drives them to purchase products online, especially healthcare products. Although many studies on the perception toward online healthcare products, however, there is comparatively limited study on the perceived risk of purchasing online healthcare products. Hence, the main objective of this study is to determine the effects of perceived risks namely Financial Risk, Product Risk, Time Risk, Delivery Risk, Social Risk, and Information Security on consumer intention in purchasing healthcare products online. To fulfil the research gap, by utilising the Perceived Risk Theory, a quantitative study was performed. Specifically, 427 questionnaires were distributed to consumers in Peninsular Malaysia; with 393 valid responses received. Descriptive, and Multiple Linear Regression Tests were performed using Statistical Package for Social Science (SPSS) software. The findings indicate that Financial Risk Delivery Risk, Social Risk, and Information Security have significant positive effects ($R^2 = 0.354$) whereas Product Risk and Time Risk have no significant effects on Consumer Intention in purchasing healthcare products online.

KEYWORDS: Online healthcare products, perceived risk, consumer intention, online purchase, Covid-19.

PURPOSE AND BACKGROUND

As a result, the MOH Pharmaceutical Services Program stated that consumers are frequently fooled by medical marketing on the internet and may be exposed to harmful products when purchasing healthcare online because no warranties regarding the product's safety, effectiveness, or quality are provided (MOH Pharmaceutical Services Programme, 2020). Apart from that, consumers who purchase health care through an online platform may encounter delivery risks (Nwankwo and Ukhurebor, 2021), as some medications may become unsafe or ineffective as a result of exposure to extreme temperatures or humidity during transit from the seller to the consumer. Consumers are also concerned about credit card fraud or financial loss was formerly associated with a negative purchase

experience when conducting online transactions (Jamra, Anggorojati, Sensuse, & Suryono, 2020). Additionally, there is the issue of cybercrime, which has resulted in 67,552 police reports since 2017, and Malaysians have lost RM 2.23 billion as a result of cybercrime scams when conducting online transactions (Basyir, 2021). Subsequently, this would cause consumers to perceive online shopping as a risky place and lose trust in the retailer (Qalati, et al., 2021). Hence, this study attempts to address several questions such as how does the factor can influence consumer intention to purchase online healthcare products in Malaysia and what is the degree of relationship between perceived risk on consumer intention to purchase online healthcare products in Malaysia? The main research objectives are to examine the factor that can influence consumer intention to purchase online health care products in Malaysia and to study the effects of perceived risk on consumer intention to purchase online health care products in Malaysia. The Perceived Risk Theory (PRT) is used in this study to develop independent variables such as financial risk, product risk, time risk, delivery risk, social risk, and information security.

METHODOLOGY

This study adopted a quantitative data analysis as it could help to examine the association between constructs from the collection of information through responses (Hulland et al., 2018). The survey research approach quantitative research strategies are often favored by researchers examining consumers' past experiences, consumer expectations, opinions, and beliefs (Kokolakis, 2017). A field study involving a cross-sectional online survey was assigned to this study (Massingham, 2018). Data for this cross-sectional study is collected using an online survey questionnaire involving many respondents who have prior experience with buying online health care products. The sampling technique that was used in this study is non-probability sampling, quota sampling, and snowball sampling. The targeted samples for this study are (i) Malaysian adults ideally aged 18 or above, (ii) Consumers living in Peninsular Malaysia, including the Northern Region, East Coast Region, Central Region, and Southern Region, and (iii) Malaysians who have past experience purchasing online health care products. A total of 427 questionnaires were distributed to consumers in Peninsular Malaysia; with 393 valid responses received. Descriptive, and Multiple Linear Regression Tests were then performed using Statistical Package for Social Science (SPSS) software.

FINDINGS

The majority of the respondent were people living in Central Region (Selangor, Kuala Lumpur, and Putrajaya) with 166 (42.2%) respondents, while from females is 200 (50.9%). Otherwise, 238 (60.6%) respondents mostly between the ages of 18 until 24 participated in the survey. Race, marital status, and occupation are as follows: 347 (88.3%) are Malay, 294 (74.8%) are single, and 196 (49.9%) have a student background, with 194 (49.4%) having an RM0/student income level. In addition, 314 (79.9%)

of respondents purchase health care products online once per month, and 165 (42%) of respondents typically spend between RM51 and RM200. Based on the research findings, information security is the dominant factor with the overall value showing the highest mean score of 4.46 followed by financial risk, product risk, time risk, and delivery risk which are 4.27, 4.25, 4.22, and 4.22, respectively, social risk is moderately high with 3.84, and consumer intention has the lowest mean with 1.88. The findings indicate that majority of the respondents agreed that information security has significant positive effects on consumer intention in purchasing healthcare products online. For this study, multiple regressions were conducted to analyze all six factors to determine the significant effects on consumer intention in purchasing healthcare products online in Malaysia. Based on the research findings, $R=0.595$ ($R\text{ Square} = 0.354$) and the adjusted $R\text{ Square}$ is 0.344, which indicated 35% variance in financial risk, product risk, time risk, delivery risk, social risk, and information security towards consumer intention. In other words, all of the variables might be the key factor that positively relationship on consumer intention when purchasing online healthcare products.

However, the regression equation for the effects of perceived risks on consumer intention in purchasing online healthcare products is:

$$SBCL = (7.074) + -0.165 (FR) + -0.091 (PR) + 0.013 (TR) + -0.294 (DR) + -0.094 (SR) + -0.165 (IS)$$

Based on the linear equation, the findings indicate that financial risk, delivery risk, social risk, and information security have significant positive effects, whereas product risk and time risk have no significant effects on consumer intention in purchasing healthcare products online. Results show a p-value for financial risk, delivery risk, social risk, and information security is below 0.05, which is 0.001, 0.000, 0.040, and 0.001. A p-value of product risk and time risk, on the other hand, are 0.074 and 0.775.

CONCLUSIONS

This main objective of this research is to examine the factor that can influence consumer intention to purchase online healthcare products in Malaysia and to study the effects of perceived risk on consumer intention to purchase online healthcare products in Malaysia. Based on the analysis, the findings indicate that financial risk delivery risk, social risk, and information security have significant positive effects whereas product risk and time risk have no significant effects on consumer intention in purchasing healthcare products online.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This study has an important managerial implication; it provides marketers with studies on the potential consumer risk of online purchasing, especially for healthcare products. To achieve this objective, future studies are recommended to analyze other variables such as Quality Risk, Convenience Risk, and Psychological Risk on Consumer Intention when purchasing healthcare products online.

REFERENCES

- Jamra, R. K., Anggorojati, B., Sensuse, D. I., & Suryono, R. R. (2020, October). Systematic Review of Issues and Solutions for Security in E-commerce. In 2020 International Conference on Electrical Engineering and Informatics (ICELTICs) (pp. 1-5). IEEE.
- Malaysians suffered RM2.23 billion losses from cyber-crime frauds. (2021, July 16). New Straits Times. <https://www.nst.com.my/news/crime-courts/2021/07/708911/malaysians-suffered-rm223-billion-losses-cyber-crime-frauds>
- MOH Pharmaceutical Services Programme, (March 2020). Ministry of Health Malaysia. Risk of purchasing medications via Internet. <https://www.pharmacy.gov.my/v2/en/content/risk-purchasing-medications-internet.html>
- Nwankwo, W., & Ukhurebor, K. E. (2021, February). Nanoinformatics: opportunities and challenges in the development and delivery of healthcare products in developing countries. In IOP Conference Series: Earth and Environmental Science (Vol. 655, No. 1, p. 012018). IOP Publishing.
- Qalati, S. A., Vela, E. G., Li, W., Dakhan, S. A., Hong Thuy, T. T., & Merani, S. H. (2021). Effects of perceived service quality, website quality, and reputation on purchase intention: The mediating and moderating roles of trust and perceived risk in online shopping. *Cogent Business & Management*, 8(1), 1869363.

UNDERSTANDING THE PSYCHOLOGICAL AND SOCIAL FACTORS THAT INFLUENCE CONSUMER BEHAVIOUR SINCE THE OUTBREAK OF COVID-19 PANDEMIC

*Muhammad Ashif Mohd Saperi
Universiti Malaysia Terengganu, Terengganu*

Nur Amalina Mohamad Zaki
Universiti Malaysia Terengganu, Terengganu*

***Corresponding Author:** *amalina@umt.edu.my*

ABSTRACT

Since the COVID-19, there are changes in consumer behaviour such as the change in mobility patterns, digital adoption, interpersonal behaviour, change in health awareness, and purchasing behaviour. Previous studies mainly focused on what are the social and psychological factors of consumer behaviour since the outbreak of COVID-19. However, to date, little is known in understanding why these social and psychological factors influence consumer behaviour. Therefore, the main objective of this research is to understand why social and psychological factors influence the consumer behaviour after the outbreak of Covid-19. To fulfil the gap, a qualitative study, specifically, eight (8) in-depth semi-structured interviews, with approximately 60 to 90 minutes long per interview, were executed with company representatives in Malaysia. The interviewees were asked questions regarding reasons of social and psychological factors which influence consumer behaviour since the outbreak of COVID-19. The research findings of this study show that there are social factors (nationalism, changing market, socio-demographic and social change) and psychological factors (fear of diseases, attitude change and impulse buying) that influence consumer behaviour since the outbreak of COVID-19 in Malaysia. The research findings are consistent with previous literature, with the exception of consumer ethnocentrism (social factor) that does not appear as one of the factors. This qualitative study serves as the foundation for future research such as quantitative study which may contribute in generalisation of consumer behaviour post-outbreak COVID-19. The managerial implication of this study suggests companies that there is in need of integration of online method into their businesses. This is because since the outbreak of COVID-19, consumer behaviour has evolved, and the evolution of consumer behaviour will possibly not reverse back to behaviour prior to the COVID-19 Pandemic.

KEYWORDS: Consumer behaviour, psychological factor, social factor, COVID-19.

PURPOSE AND BACKGROUND

The COVID-19 pandemic is the worst communicable illness outbreak in Malaysia's history, especially when the Ministry of Health has advised Malaysians to stay at home (Abdullah, 2020). Social

quarantine, often known as lockdowns, in combination with social separation, has become a near-standard technique in the worldwide control of COVID-19 (Abdullah, 2020). This has increased the importance of consumer behavior so that the marketing will always be in their care (Stally, 2020). COVID-19 has undeniably caused huge disruptions in people's lives, prompting them to turn to the federal and municipal governments for information, accountability, and reassurance, as well as remedies (Lee, 2021). The special issue was made possible by consumer researchers pitching in and doing their part to document experiences of the various constituents during the pandemic, from perceptions and emotions to attitudes and behaviours, with the goal of understanding and providing insights into potential solutions (Goldsmith and Y.lee, 2021). Consumer behaviour is a crucial and continuous decision-making process of searching, acquiring, utilising, reviewing, and disposing of products and services, since everyone is impacted by some various factors (Valaskova et al., 2015). Past studies have focused on what are the psychological and social factors of consumer behaviour during COVID-19 Pandemic (Hoang, 2021; Shubham and Goswami, 2021; Vineet Chouhan, 2021; Carolan, 2020). However, little research has been done in understanding why these psychological and social factors influence consumer behaviour in Malaysia.

METHODOLOGY

To achieve the objective of this study, several in-depth interviews were performed. Specifically, eight (8) semi-structured in-depth interviews were executed to owners or staff of businesses in Malaysia. The interviewees were asked questions regarding reasons of psychological and social factors which influence consumer behaviour post-outbreak of COVID-19. Each interview took approximately 60 to 90 minutes. The interviews were performed until data saturation was achieved. Each interview was then recorded and transcribed verbatim; capture every single word from an audio file to text (the same way those words were originally spoken). Transcriptions in Malay language was then translated into English. The transcriptions were analysed thematically in which the author had to go through the entire transcripts and look for meaningful patterns in themes across the data.

FINDINGS

Based on the research findings, there are many reasons why psychological and social factors influence consumer behaviour post-outbreak of COVID-19 in Malaysia. For psychological factors, the reasons are due to consumer were afraid to go out (fear of diseases), switched to digital purchases and saved money (attitude change), and settled purchasing early then rushed out (impulse buying). For social factors, the reasons include due to MCO enforcement and Prime Minister announcement (nationalism), high cost for outsiders and demand for online (changing market), panic buying, use riders to deliver for outsiders and open shop without permission (socio-demographic), as well as utilize robots (social change). The findings of the research are consistent with previous studies (French,

Mykhalovskiy, & Lamothe, 2018, Bali, Stewart, & Pate, 2016, Guardian, 2020, Bogost, 2020, Islam, 2020, Dammeyer, 2020, Gerth, 2011, Govindan, 2020, Hille, 2020, Manski, 2020, and Oosterhoff, 2019), however, consumer ethnocentrism (social factor) does not appear as one of the social factors of this study (Han and Guo, 2018).

CONCLUSIONS

The main objective of this study is to understand why psychological and social factors influence the consumer behaviour post-outbreak of Covid-19. Based on the research findings, there are psychological factors (fear of diseases, attitude change and impulse buying) and social factors (nationalism, changing market, socio-demographic and social change) which influence consumer behaviour post-outbreak of COVID-19 in Malaysia.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The managerial implication of this study is towards businesses in understanding the need for online integration because since the outbreak of COVID-19, consumer behaviour has evolved in which many of the behaviour may not reverse back to behaviour before the outbreak of COVID-19. This study is a qualitative study; hence generalization of data may not be feasible. The findings of this qualitative study, however, may serve as the foundation for quantitative studies which may contribute in generalizing the change of consumer behaviour post-outbreak of COVID-19.

REFERENCES

- Balinska, M., Rizzo, C. (2009). Behavioural responses to influenza pandemics: What do we know? PLoS Curr. 1. <https://doi.org/10.1371/currents.rn1037>
- Bennett and Coleman. (2021). Definition of 'Impulsive Buying'. <https://economictimes.indiatimes.com/definition/impulsive-buying>
- Kelly Goldsmith and Angela Y. Lee. (2021). A View from Inside: Insights on Consumer Behavior during a Global Pandemic. <https://www.journals.uchicago.edu/doi/abs/10.1086/711896?journalCode=jar>
- Kit Smith. (2016). How to Understand and Influence Consumer Behavior. <https://www.brandwatch.com/blog/how-understand-influence-consumerbehavior/>
- Mahesh H puttathia, Aakash Kiran Raverkar and Evangelos Avramakis. (2021). All change: how COVID-19 is transforming consumer behaviour. <https://www.swissre.com/institute/research/topics-and-risk-dialogues/healthand-longevity/covid-19-and-consumer-behaviour.html>

PERSONALITY TRAITS AND INTRINSIC MOTIVATION TOWARDS HAPPINESS AMONG MILLENNIALS IN MALAYSIA: PERSPECTIVE OF MALAYSIAN BUSINESS STUDENTS

*Muna Wadhiha Mohd Fauzi**
Universiti Teknologi MARA, Selangor

Norashikin Hussein
Universiti Teknologi MARA, Selangor

Murni Zarina Mohamed Razali
Universiti Teknologi MARA, Selangor

Nur Aizureen Anwar
Universiti Teknologi MARA, Selangor

Norhayati Omar
Universiti Teknologi MARA, Selangor

***Corresponding Author:** *mwadhiha@gmail.com*

ABSTRACT

In the modern era, happiness has developed into one of the indicators of social advancement. Happiness is twice as important to the vivacious millennial age, especially to university students. Thus, the aims of this study are firstly, to determine the relationship between extraversion personality and happiness among millennials; secondly, to determine the relationship between conscientiousness personality and happiness among millennials in Malaysia; thirdly to determine the relationship between intrinsic motivation and happiness among millennials. Online questionnaires were distributed to 120 bachelor's degree program students in a public university in Malaysia. All the questions were designed to be close-ended for easy analysis of the feedback and the 'Likert-type scale' was used to ascertain the level of agreement or disagreement with regard to happiness among millennials using the Subjective Happiness Scale (SHS). Data were then analyzed using SPSS Statistics. The outcomes of the study indicated that all three independent variables which were extraversion personality, conscientiousness personality, and intrinsic motivation show a significant relationship with happiness among millennials. This study also sheds light on providing relevant training and curriculum that can increase millennial students' happiness.

KEYWORDS: Happiness, personality traits, intrinsic motivation.

PURPOSE AND BACKGROUND

Happiness is the ultimate goal of human life, where everyone lives life for satisfaction and happiness (Guazzelli & Zilli, 2016). Courtney (2020) defined happiness as the state of feeling or showing pleasure

or contentment. Happiness consists of three main interrelated components which is a positive effect, absence of negative effect, and also satisfaction with life as a whole (Pishva, Ghalehban, Moradi & Hoseini, 2011). Steptoe and Wardle (2011) discovered that those who were happy had a lower risk of passing away over a five-year period, with the happiest individuals having a 35% lower risk of passing away than the least happy. According to Gordon (2021), the most important value in life is a self-identity that is coherent and constantly evolving. Through communication, a person can participate in familiar, emotional communities like family, friends, and neighbors while displaying their full personality (Gordon, 2021).

Personality qualities were discovered to be strongly connected with happiness, and personality elements play a substantial influence on happiness occurrence (Fraser, 2020). The Big Five model of personality suggests that structurally organized personality qualities, such as extraversion, openness, conscientiousness, agreeableness, and neuroticism, be expressed as five major variables (Fraser, 2020). Personality is a major driver of happiness according to Smillie (2020). The most popular theory of personality is Big Five personality that established by D. W. Fiske in 1949 (Cherry, 2021). Intrinsic motivation towards one's thing also can create individual positive emotion or happiness. According to Ceci and Kumar (2015) intrinsically motivated individuals may carry more positive affect and experience. Intrinsic motivation is an internal satisfaction of the individuals that make a person happy.

However, in The Sun Daily (Adeline, 2020), it was reported that Malaysia happiness fell from the 35th place in 2018 to 80th place in 2019. Not only that, in 2022 Malaysia happiness is continuing to fall and Malaysia is ranked 82nd place. This statement is based on the World Happiness Report published by United Nations Sustainable Development Solutions Network which is conducted every year. Unhappiness not only happen to adult, but it happens to everyone including millennials. In addition, Deloitte Global's Annual Millennial Survey (2020) has reported that only 26% of millennials and 28% of Gen Z believed they would be happier. This is because researchers found that nearly one in three millennials are now suffering from mental health in 2020, according to the research published by the Blue Cross Blue Shield Association (Allie, 2020). Millennials are considered as anybody that born between 1981 to 1996 (Michael, 2019). Based on the Global Annual Review in 2020 by Pricewaterhouse Cooper, stated that millennials will form 50% of the global workforce by 2020. Therefore, it is important to make sure the happiness of the millennials since this generation will also be a leader and hold the reins of government soon in the future.

Personality traits and intrinsic motivation have sparked many interests throughout the years. In an educational setting, the connection between personality traits and intrinsic motivation is among the signification issues to be answered. Although there is clear and dependable evidence that links intrinsic motivation to various positive results, studies measuring the influence of personality traits

and intrinsic motivation on university students in Malaysia are still lacking. This is possibly the reason that most studies would look into personality traits and intrinsic motivation towards happiness among millennials. Thus, the aims of the study are as follow: 1) To determine the relationship between extraversion personality and happiness among millennials in Malaysia, 2) To determine the relationship between conscientiousness personality and happiness among millennials in Malaysia, 3) To determine the relationship between intrinsic motivation and happiness among millennials in Malaysia. Thus, it is the hypothesis that H1: Extraversion personality has a positive significant relationship with happiness among millennials in Malaysia, H2: Conscientiousness personality has a positive significant relationship with happiness among millennials in Malaysia and H3: Intrinsic motivation has a positive significant relationship with happiness among millennials in Malaysia.

METHODOLOGY

The type of investigation is based on a quantitative study. Online questionnaires were distributed to 120 bachelor's degree program students in a public university. Only 105 respondents to this survey were able to provide feedback. Business students from 15 bachelor's degree programs were selected as the respondents of the study. All the questions were designed to be close-ended for easy analysis of the feedback and the 'Likert-type scale' was used to ascertain the level of agreement or disagreement with regard to happiness among millennials using the Subjective Happiness Scale (SHS). The type of sampling used is quota sampling as the subjects are conveniently chosen from the targeted group. The targeted respondents will be the employees that were born from the year 1980 and 2000. The researcher focused on the primary and secondary data in order to gather information in completing the research. Primary data is obtained from questionnaire surveys that are distributed to respondents. Meanwhile, secondary data collected via online sources, websites, journals and articles. All primary data are processed and analyzed using Statistical Package for Social Science (SPSS).

The instruments used in the study were adopted from reliable and valid sources in the literature. A dependent variable is a happiness measured using the Subjective Happiness Scale (SHS) from Lyubomirsky and Lepper (1999). To measure happiness, the study adopted 10 items. Meanwhile, 4 items were adopted from Topolewska (2014) to measure extraversion. 4 items were adopted from Hee (2014) to measure conscientiousness. Finally, intrinsic motivation was measured using the Academic Motivation Scale (AMS), the study adopted 4 items from (Pintrich, Garcia, Smith & Mckeachie, 1993). For all variables, respondents were asked to indicate to which each statement applies to the using 5 points Likert Scale (1= strongly disagree to 5= strongly agree). The survey questionnaires were comprised of a few sections covering all variables and one section on demographic items. Reliability analysis, descriptive analysis, correlation, and regression analysis were used to analyze the data in achieving the objectives of the study.

FINDINGS

Table 1: Demographic Profile

Variable	Frequency	Percentage
Gender		
Male	39	37.1
Female	66	62.9
Age		
25-30	32	30.5
31-35	39	37.1
36-40	34	32.4
CGPA		
2.00-2.50	13	12.4
2.51-3.00	37	35.2
3.01-3.50	32	30.5
3.51-4.00	13	12.4

The total numbers of respondents are 105. Based on the findings in Table 1, shows that 62.9 percent are female, while the remaining 37.1 percent are male. Based on age, the majority of respondents were found in 31-35 years old which represent 37.1 percent. Based on CGPA, shows that 35.2 percent of respondents achieve 2.51-3.00 CGPA makes up as majority.

Table 2: Regression Analysis

	Dependent Variable Usage
Independent variables (β)	
Extraversion	.274*
Conscientiousness	.509*
Intrinsic Motivation	.157*
F value	80.189**
R²	0.704
Adjusted R²	0.696

* $p < 0.05$, ** $p < 0.01$

Based on the result in Table 2, the R² of the model is 0.74. Therefore, the model implied that 74 percent of the variation in happiness is explained by variation in extraversion personality, conscientiousness personality, and intrinsic motivation. While another 26 percent is explained by other factors. The F value of the model is 80.189 and significant at ($p < 0.01$) which indicates that the model is a considerable fit. Extraversion was found to have a significant relationship with happiness ($\beta = 0.274$, $p < 0.01$). H1 is supported. Based on a study by Michael (2019) they have found that extraversion had a positive relationship between extraversion and happiness. Conscientiousness was

found to have a significant relationship with happiness ($\beta=0.509$, $p<0.01$). H2 is supported. Intrinsic motivation was found to have a significant relationship with happiness ($\beta=0.157$, $p<0.01$). H3 is supported. It was supported by Alison (2020) found that intrinsic motivation has a positive relationship with happiness.

CONCLUSIONS

In conclusion, this research has successfully achieved the research objectives accordingly, which is to examine the relationship between extraversion personality, conscientiousness personality, and intrinsic motivation towards happiness among millennials in Malaysia. This study reveals that extraversion, conscientiousness, and intrinsic motivation were found to be important in determining happiness among millennial business students. That means, the higher the extraversion, conscientiousness, and intrinsic motivation the more they perceived happiness.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This study also sheds light on providing relevant training and curriculum that can increase millennial students' happiness. Additionally, findings also can contribute to designing individual instrumentation personality traits to evaluate their happiness. Future research should include other faculties and other higher learning institutions in Malaysia in order for the findings to be generalized. Finally, to make the study more meaningful, it is also suggested that moderating and mediating variables be added to the framework.

REFERENCES

- Ceci, M. W., & Kumar, V. K. (2015). A Correlational Study of Creativity, Happiness, Motivation, and Stress from Creative Pursuits. *Journal of Happiness Studies*, 17(2), 69–626. <https://doi.org/10.1007/s10902-015-9615-y>
- Courtney, A. E. (2020, October 31). What Is Happiness and Why Is It Important? Positive Psychology.Com. <https://positivepsychology.com/what-is-happiness/>
- Gordon, S. (2021). Understanding How Conscientiousness Affects Your Behavior. Verywell Mind. Retrieved from <https://www.verywellmind.com/how-conscientiousness-affects-your-behavior-4843763>
- Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46, 137-155.
- Uusiautti, S. (2013). On the positive connection between success and happiness. *International Journal of Research Studies in Psychology*, 3(1).

ECONOMICS

HETEROGENEOUS MACROECONOMICS IMPACT ON INCOME INEQUALITY FOR VARIOUS GROUPS IN MALAYSIA

*Muhamad Rias K V Zainuddin**
Universiti Malaysia Terengganu, Terengganu

Abdul Hafiz Mohd Azam
Universiti Kebangsaan Malaysia, Selangor

Norhasimah Shaharuddin
Universiti Utara Malaysia, Kedah

Noorhaslinda Kulub Abd Rashid
Universiti Malaysia Terengganu, Terengganu

*Corresponding Author: rias@umt.edu.my

ABSTRACT

Despite consistent economic growth in the past decade, fundamental issues such as rising income inequalities among various groups are still unsolved in Malaysia. Most past empirical studies that explored the factors affecting inequality use aggregate data (national level), and lack of studies that focus on ethnic-specific or strata-specific inequality. This study aims to investigate the implications of macroeconomic performances on income inequality for various groups (by ethnicity and strata) in Malaysia. This study uses time-series data from 1982 until 2019 and estimates Autoregressive Distributed Lag (ARDL) regression for each ethnic group (Bumiputera, Chinese, Indian, and others) and strata (urban and rural). The estimation results show heterogeneous implications of macroeconomic factors on the GINI coefficient for each group. Besides GDP per capita, several other macroeconomic factors are also found significant in affecting inequality in Malaysia such as the unemployment rate, inflation, primary education enrolment, and government debt. However, the sign and magnitude vary among groups. Hence, policymakers need to ensure that policies are targeted based on ethnicity or strata to ensure the most vulnerable groups gained benefits from macroeconomic development as the nation moving towards sustainable development.

KEYWORDS: Inequality, macroeconomy, GINI, ARDL

PURPOSE AND BACKGROUND

Despite being one of the fastest-growing Southeast Asian economies, Malaysia has the highest income disparity between the rich and poor in the region, greater than that of the Philippines, Thailand, Singapore, Vietnam, and Indonesia (UNDP 1997, UNHDP 2004). Throughout years, Malaysia has successfully diversified its economy from agriculture and commodity-based to important players in the global supply chain, especially for electrical appliances, parts and components. However, as the

economy continues to progress, the income inequality issues are still unsolved. The same can also be said from the perspective of inter-ethnic. Malaysia is well known for the uniqueness of a multi-ethnic and multi-racial country. Although the Bumiputera are the largest group in the country, the average wealth for Bumiputera are only half of those for Chinese household (Khalid & Yang 2021).

Based on the latest Sustainable Development Report 2022, Malaysia still faces major challengers in achieving Sustainable Development Goals 10 (SDG10), based on the Gini coefficient and also Palma ratio. Despite the continuous progress against relative inequality, Ravallion (2020) found that the absolute disparities by ethnicity in Malaysia are now even larger than 50 years ago. A recent study by Khalid and Yang (2021) further highlights this issue as the economic growth in Malaysia does not have an inclusive redistribution. In addition, most previous studies examined the factors that influence income inequality at the national level (Lee & Chong 2019). These findings are unlikely to portray the actual situation as the changes in the income distribution vary by group or ethnicity. Group-level data should be used to make the empirical results more meaningful. Hence, the objective of this study is to investigate the implications of macroeconomics performances on income inequality for various groups in Malaysia.

METHODOLOGY

This paper investigates the impact of macroeconomic factor on income inequality in Malaysia. Specifically, this paper further highlights this issue by estimating a more detail analysis based on ethnic group (Bumiputera, Chinese, Indian and Others) and also strata (rural and urban). Annual data spanning from 1982 until 2019 resulting in total 38 observation were collected from open-source website namely Department of Statistics Malaysia, World Bank and Economic Planning Unit Malaysia.

Following the study by Deysappriya (2017), GINI coefficient is being regress on the several macroeconomics variables. The long-run equation of GINI function is as follows:

$$\begin{aligned} \ln \text{GINI}_t^x = & \beta_0 + \beta_1 \ln \text{RGDPPC}_t + \beta_2 \ln \text{RGDPPC}_t^2 + \beta_3 \text{UN}_t + \beta_4 \text{INF}_t + \beta_5 \text{PE}_t + \beta_6 \text{LFPR}_t \\ & + \beta_7 \text{TOTG}_t + \beta_8 \text{GD}_t + \beta_9 \text{POPG}_t \\ & + \varepsilon_t \end{aligned} \quad (1)$$

Where $\ln \text{GINI}$ is the log of Gini coefficient (index); $\ln \text{RGDPPC}$ is the log of real GDP per capita (2010 US\$); UN is the unemployment rate (%); INF is the inflation rate (%); PE is the primary education enrolment (% gross); LFPR is the labour force participation rate (% of working-age population); TOTG is the terms of trade growth (%); GD is the government debt (domestic, % of GDP); and POPG is the population growth (%). Superscript x in $\ln \text{GINI}_t^x$ refer to M (Malaysia), B (Bumiputera), C (Chinese), I (Indian), O (Others), U (Urban) and R (Rural). This study employed an Autoregressive Distributed Lag

(ARDL) model developed by Pesaran et al. (2001). This model has several advantages compared to other cointegration method such as Engle and Granger (1987) and Johansen and Juselius (1990). Among the advantages of ARDL model is that the model is applicable regardless the underlying regressors are purely I(0), purely I(1) or mutually cointegrated.

FINDINGS

Prior to conducting estimations, this study performs descriptive statistics to understand the overall nature of the selected variables in the model. In brief, the mean values for all variables are positive except for the inequality variables and term of trade growth. The same can be said for the median, as it has the same signs with the mean. All variables have low standard deviation which is less than 10, which means that the data are clustered around the mean for all variables. Meanwhile, the skewness for all Gini coefficients are skewed to the right, except for the Bumiputera. Next, this study evaluates the stationary of the data by conducting unit root test. Based on ADF and KPSS unit root test at 5% significance level, the dependent variables are stationary at I(1), while the independent variables have mixed stationarity, I(0) and I(1). After establishing the order of integration, this study proceed to check whether there are long-run relationship in the model by using bound test.

The computed F-statistics for all models are higher than the upper bound I(1) critical values of Pesaran et al. (2001) at 5% significance level. This reflects that there is strong evidence of long-run relationship among the variables for chosen models in this study. Thus, this study proceeds with ARDL estimations to evaluates the determinants of inequality for various group in Malaysia. The ARDL methodology are often used to calculate the long-run and short-run estimates. However, following Jalil (2012), this study only reports on the long-run estimates to conserve space because the long-run and short-run estimates show the same directions, and the magnitude is smaller for the short-run.

Table 5: ARDL Estimation Results

Variables	Malaysia	Bumiputera	Chinese	Indian	Others	Urban	Rural
Constant	33.029 ^a	32.547 ^a	10.326 ^c	124.682 ^a	13.375	34.796 ^a	1.031
ln RGDP	-7.132 ^a	-6.768 ^a	-2.363 ^c	-27.637 ^a	-0.514	-7.670 ^b	-0.057
ln RGDP ²	0.420 ^a	0.405 ^a	0.130	1.683 ^a	-0.042	0.455 ^b	0.024
UN	0.002	-0.015 ^c	0.035 ^a	0.014	-0.130 ^b	0.025 ^c	-0.031
INF	-0.0102 ^c	-0.009 ^b	-0.003	-0.006	-0.076 ^b	-0.006	0.026
PE	-0.036 ^a	-0.052 ^a	0.000	-0.132 ^a	-0.002	-0.032 ^a	-0.045
LFPR	0.000	-0.001	-0.001	-0.001	-0.071 ^a	-0.001	0.013
TOTG	0.003	0.001	0.004	0.069 ^a	-0.049	0.020	-0.025
GD	-0.363 ^a	-0.107 ^c	-0.632 ^a	-0.294	-0.179	-0.501 ^a	0.242
POPG	0.020	0.016	-0.101 ^b	0.205	-0.401 ^c	-0.020	0.116
ECT _{t-1}	-0.417 ^a	-0.535 ^a	-0.488 ^a	-0.325 ^a	-0.6043 ^a	-0.507 ^a	-0.152 ^a

	Diagnostic Test						
Normality	0.948	3.223	4.752 ^c	1.076	0.701	2.075	1.436
LM	1.632	2.452	0.067	2.249	4.521 ^c	2.396	1.833
BPG	0.898	1.020	0.324	0.463	0.582	0.739	0.974
Ramsey	0.396	0.128	0.919	2.477	0.758	0.137	0.651
CUSUM	Stable	Stable	Stable	Stable	Stable	Stable	Stable
CUSUM ²	Stable	Stable	Stable	Stable	Stable	Stable	Stable

Notes: ^a, ^b and ^c denote significance level at 1%, 5% and 10%, respectively.

The long-run ARDL estimation results shows that the implications of macroeconomics indicators on the inequality of various group in Malaysia are consistent, but at varying magnitude. There are evidence of Kuznets curve between GDP per capita with inequality for overall Malaysia, Bumiputera, Indian and urban population. This means that, although at first increment in GDP per capita led to better income distribution, but after certain values of GDP per capita, the inequality worsens. This result strengthens those of Gallup (2012) as well as Lim and Sek (2014). In other words, focusing on higher GDP per capita alone have inverse implications on the inequality for most group, except Chinese and other race. The unemployment has negatives impact on the inequality for Bumiputera and other race, but positive impacts for the Chinese and urban population. Where reduction in unemployment by 1% causes the Gini coefficient for Bumiputera and other races to increase 1.5% and 13%, respectively. For the Chinese and urban population, reduction in unemployment by 1% causes the Gini coefficient to decrease by 3.5% and 2.5%, respectively. The positive relationships are expected and consistent with past studies by Deysappriya (2017), Jantti and Jenkins (2001), and Monnin (2014). Although the negative relationship contradicts most studies, it can be explained if the increment in employment (reduction in unemployment) are focussed on those from M40 and T20, hence this will cause higher inequality. Inflation on the other hand have negative impacts on the Gini coefficient for overall Malaysia, Bumiputera and others. The magnitude of impact from 1% changes in inflation on Gini coefficient varies as others (-7.6%) are leading, followed by overall Malaysia (-1.0%) and Bumiputera (-0.9%). The findings are in line with outcome from Galli and van der Hoeven (2001) and Auda (2013). Monnin (2014) proves that rising inflation leads to lower income inequality, but to some point and have turning points at 13.3% inflation rates.

CONCLUSIONS

In moving towards sustainable development, like other nations, Malaysia also has its challenges. This study explored from the perspective of Sustainable Development Goals 10 (SDG10) which is about reduced inequality as inequality is a persistent issue in Malaysia. To understand the determinants of this problem, this study analyses the heterogeneous implications of macroeconomics performances on the income inequality for various group in Malaysia. The estimation results show that the implications of macroeconomics indicators on the inequality of various group in Malaysia are

consistent in terms of sign and economic theory, but the magnitude varies among income groups. In addition, this study also found evidence of Kuznets curve between GDP per capita with inequality for the overall Malaysia, Bumiputera, Indian and urban population. This means that, although at first increment in GDP per capita led to better income distribution, but after some point of GDP per capita, the inequality worsens. In other words, focusing on higher GDP per capita alone have inverse implications on the inequality for most group, except Chinese and other race. The outcomes are also consistent with various past studies.

CONTRIBUTION/PRACTICAL IMPLICATIONS

Beside GDP per capita, several other macroeconomic factors are also found significant in affecting inequality for most groups in Malaysia such as the unemployment rate, inflation, primary education enrolment and government debt. Hence there are several policy insights can be noted from the outcome of this study. First of all, policymakers need to divert from focusing on the GDP per capita. More attention should be given to alternative welfare measures such as the Genuine Saving (GS), Genuine Progress Indicators (GPI), Happiness Index and Human Development Index (HDI). This is because, higher per capita income alone does not guarantee better income distributions or higher standard of livings. The alternative measures should be used more frequently in policy planning so that the positive externalities effects from macroeconomic improvements in Malaysia are shared by all.

REFERENCES

- Deyshappriya, N. P. (2017). Impact of Macroeconomic Factors on Income Inequality and Income Distribution in Asian Countries. ADBI Working Paper 696. *Tokyo: Asian Development Bank Institute*. Available: <https://www.adb.org/publications/impact-macroeconomic-factors-income-inequality-distribution>
- Khalid, M. A., & Yang, L. (2021). Income inequality and ethnic cleavages in Malaysia: Evidence from distributional national accounts (1984–2014). *Journal of Asian Economics*, 72, 101252.
- Lee, H-A. & Choong, C. (2019). Inequality in Malaysia: Empirical Questions, Structural Changes, Gender Aspects. *Journal of Southeast Asian Economies*, 36(3), 329-354.
- Monnin, P. (2014). Inflation and income inequality in developed economies. Working Papers No.1401. *Zurich: Council on Economic Policies*. <https://dx.doi.org/10.2139/ssrn.2444710>
- Ravallion, M. (2020). Ethnic inequality and poverty in Malaysia since May 1969. Part 1: Inequality. *World Development*, 134, 105040.

VISITOR'S EXPERIENCES OF VALUES AND BENEFITS TOWARDS MUSEUM VISITATIONS IN SELANGOR DARUL EHSAN, MALAYSIA

Muhamad Amirul Hafiz Zulkifli
Universiti Teknologi MARA, Selangor

Nur Syuhaidah Ayub
Universiti Teknologi MARA, Selangor

*Mohd Syuhaidi Abu Bakar**
Universiti Teknologi MARA, Selangor

Fazlina Jaafar
Universiti Teknologi MARA, Selangor

Corresponding Author: syuhaidi@uitm.edu.my

ABSTRACT

Perbadanan Adat Melayu dan Warisan Negeri Selangor (PADAT) is a museum entity under the Selangor State Government. It was established following the enforcement of the *Enakmen Perbadanan Melayu dan Warisan Negeri Selangor* on 16 March 2009, which entails PADAT as a special body responsible to conserve the Malay customs and Selangor's heritage. In addition, PADAT is also the responsible body that oversees the distribution of museums and monuments in Selangor. One of the first museums under its supervision is the *Muzium Negeri Selangor*, also known as *Muzium Sultan Alam Shah*, which was founded on 2 September 1989. To date, PADAT has a total of 4 museums and 13 Selangor monuments under its supervision (*Perbadanan Adat Melayu dan Warisan Selangor*, 2019). The purpose of this study is to explore visitor's experiences of values and benefits towards museum visitations in Selangor Darul Ehsan, Malaysia.

KEYWORDS: Museums, values, benefits, Selangor, Malaysia.

PURPOSE AND BACKGROUND

According to Brownlee (2021), museum learning offers isolated experiences, presenting it as interactive and social with potential for personal, professional, and institutional impact. This learning process is transactional, facilitated through applying a pedagogy of the real, which reflects museums as unique learning places.

Gutowski and Kłos-Adamkiewicz (2020) stated that museums should rise to the challenge of disseminating knowledge in virtual space and treat it as a mission with the reward of building identity and educating communities, not only in the region but worldwide.

Continuous climate change has led to significant changes in the composition, distribution, and size of species available in the hemisphere. As a result, the museum's institution benefits as a centre

for documentation and observation by providing a true picture of changes that have taken place on Earth, such as the method of preserving tissue specimens. These preserved data thus provide outstanding values and importance for current and future research (Sikes et al., 2017).

METHODOLOGY

This study used a qualitative research design through semi-structured interviews involving a total of 17 visitors who visited any of the museums in Selangor. Their responses during the interviews were recorded and reviewed in order to identify any emerging patterns or "themes". No specific interview questions were formed, instead, the informants were asked to freely express their opinions about the values and benefits of visiting museums in Selangor. The interview process was conducted until data saturation was achieved. Their responses were transcribed verbatim, and the study then proceeded to arrange the contents in the informants' responses into particular themes (values and benefits). According to Hennink and Kaiser (2021), a total of 9–17 interviews or 4–8 focus group discussions reached saturation for a qualitative study.

FINDINGS

Museums in Selangor are seen to possess intellectual value to the society. Museums also serve as a valuable platform for the promotion of historical knowledge and storage of objects to the community. Furthermore, the museum institution also holds the requirement of information authenticity and acts as a permanent repository of original information. Another contribution of a museum institution is the provision of values, experience, and knowledge to the society.

Museums in Selangor also play a prominent role as an institution that benefits the evidence of peace, history, and education of a community in relation to various significant issues and events. The museum institution also contributes to the society by serving as a recreational institution. Museums are also beneficial in terms of social networking and entertainment to children.

The results of this study suggest that Selangor's museum institutions provide great values and benefits to the community.

CONCLUSIONS

This study concludes that museums not only act as a place for the storage of artifacts, but also as an important institution that gives importance to the documentation of local cultural history, exhibitors of past history, contributors to knowledge and builders of long-term relationships within society, particularly in the state of Selangor Darul Ehsan, Malaysia.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The results of this study suggest that Selangor's museum institutions provide great values and benefits to the community and complement previous studies that relates museums in relations to various area, such as culture, art collection, history, science, and technology.

ACKNOWLEDGMENT

This paper was funded by Geran Penyelidikan Pembangunan Kerjaya Bagi Pensyarah Tamat PhD Kurang 5 Tahun (GPK-K5TP) UiTM Cawangan Selangor (RMI File No: 600-UITMSEL (Pl. 5/4) (051/2020)). We would like to thank The Ministry of Higher Education (MOHE) and Universiti Teknologi MARA (UiTM), Malaysia for the support towards research and innovation.

REFERENCES

- Brownlee, C. (2021). *Museum education: Exploring its value for schoolchildren, teachers and museum professionals. A qualitative study* (Doctoral dissertation, Queen's University Belfast). Retrieved from <https://pureadmin.qub.ac.uk/ws/portalfiles/portal/238083889/Thesis.pdf>
- Gutowski, P., & Klos-Adamkiewicz, Z. (2020). Development of e-service virtual museum tours in Poland during the SARS-CoV-2 pandemic. *Procedia Computer Science*, 176, 2375-2383.
- Hennink, M., & Kaiser, B. N. (2021). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. *Social Science & Medicine*, 114523.
- Perbadanan Adat Melayu dan Warisan Negeri Selangor (2019). *Pelan Strategik Perbadanan Adat Melayu dan Warisan Negeri Selangor 2019-2023* (pp. 1-42) (Malaysia, Kerajaan Negeri Selangor, Perbadanan Adat Melayu dan Warisan Negeri Selangor). Shah Alam, Malaysia: Perbadanan Adat Melayu dan Warisan Negeri Selangor.
- Sikes, D. S., Bowser, M., Daly, K., Høy, T. T., Meierotto, S., Mullen, L., Stockbridge, J. (2017). The value of museums in the production, sharing, and use of entomological data to document hyperdiversity of the changing north. *Arctic Science*, 3(3), 498-514. doi:10.1139/as-2016-0038

SCALE-DEPENDENT FOREIGN EXCHANGE EXPOSURE: A CASE OF PLANTATION SECTOR IN MALAYSIA

*Hishamuddin Abdul Wahab**
Universiti Sains Islam Malaysia, Negeri Sembilan

Nurul Afaaf Mohd Nasir
Universiti Sains Islam Malaysia, Negeri Sembilan

Sharifah Fairuz Syed Mohamad
Universiti Sains Islam Malaysia, Negeri Sembilan

Muhammad Safwan Ibrahim
Universiti Sains Islam Malaysia, Negeri Sembilan

***Corresponding Author:** *hishamuddin@usim.edu.my*

ABSTRACT

Previous attempts in pricing foreign exchange risk were largely focused on a single time domain analysis which subjected to specification bias due to the dynamic nature of exchange risk movement across time intervals. Given this, the study aims to unveil multiscale relationship between exchange rate changes and firm value of 20 multinational corporations in Plantation sector from January 2000 till December 2020. Through the application of Maximal Overlap Discrete Wavelet Transformation (MODWT) method, the study finds non-monotonic trend of currency exposure across time scales. Specifically, there is gradual increase in the magnitude of beta exchange exposure and percentage of exposed firms from low to high time scales. This finding implies the enhanced sensitivity of firm value to exchange rate fluctuations within widened time horizons. The study demonstrates the usefulness of wavelet technique in foreign exchange risk measurement and helps firm managers and market players in making timely decision making pertaining to exchange risk management.

KEYWORDS: Currency exposure, MODWT, plantation sector.

PURPOSE AND BACKGROUND

Under international finance, foreign exchange risk measurement always becomes the central of discussion among academia and practitioners especially after the collapse of fixed exchange rate system under the Bretton Woods System in 1970s (Abdul Wahab *et al.* (2017)). Adler and Dumas (1984) define exchange rate exposure as the magnitude of firm's sensitivity to foreign exchange changes under a regression framework. The major problem relating to the exchange risk pricing in the past studies is the use of single time domain which tends to ignore the potential heterogeneity effect of diverse investment holding periods between investors (Masih *et al.* (2010)). Besides, the ignorant towards the actual size of exchange risk for specific time scale causing exchange risk mismanagement

among firm managers. The previous practice of putting assumption of identical level of exchange rate exposure across different time intervals seems to be unrealistic and bias since market contains diverse range of market players with different expectations. To cater for single time domain bias, the study employs Maximal Overlap Discrete Wavelet Transformation (MODWT) to decompose a given time series into different time domains namely by day-by-day, month-by-month and year-by-year (Wan Suhaimi *et al.* (2019a)). The study focuses primarily on plantation sector given by the fact that the industry becomes one of major sectors in Malaysia and subject to enhanced level of foreign exchange risk due to vigorous cross border transactions. Given this, the objective of the study is to assess the extent of exchange rate exposure of plantation firms in Malaysia from January 2000 till December 2020.

METHODOLOGY

For data, the study extracts stock prices of listed plantation firms in Bursa Malaysia from January 2000 until December 2022. The study involves 2 stages of analysis where the first stage involves wavelet decomposition while the second part runs regression analysis. For the first stage, this study employees a wavelet technique called Maximal Overlap Discrete Wavelet Transformation (MODWT) which is useful in transforming a single frequency domain of a series into multiple time domains. Under MODWT, the transformation involves a special class of wavelet filter called Daubechies least asymmetric of length 8 [LA(8)]. The study uses discrete wavelet transformation compared to continuous transformation because firm manager is always interested with finite length of duration and it provides more meaningful results (Wan Suhaimi *et al.* (2019b)). The final MODWT results produce detailed part (mother wavelet) and smooth part (father wavelet) and can be further explained in 7 different wavelet crystals namely d1 (2-4 days), d2(4-8 days), d3(8-16 days), d4(16-32 days), d5(32-64 days), d6 (64-128 days) and d7(128-256 days) (Masih *et al.* (2010)). For the second stage, the assessment of exchange rate exposure is done using residual model (multiple regression) where stock returns are regressed with selected exchange rate changes for each time scale.

FINDINGS

Several interesting findings are found in this study as follows;

1. Majority of plantation corporations in Malaysia are highly susceptible to changes in the US Dollar (USD) and Japanese Yen (JPY).
2. Majority of the sample firms exhibited negative sign of beta exposure, implying that firms are benefited from the appreciation of the MYR and vice versa.
3. The hypothesis of identical level of exchange exposure across time scale is rejected at 5% significance level. Accordingly, firms show multiscale tendency where significant number of exposed firms is shown at higher time scale compared to low time scale as shown in Figure 1

and Figure 2. In the same vein, the magnitude of beta exposure is increasing gradually from low time scale to high time scale, indicating the prevalence of foreign exchange risk at widened investment horizon.

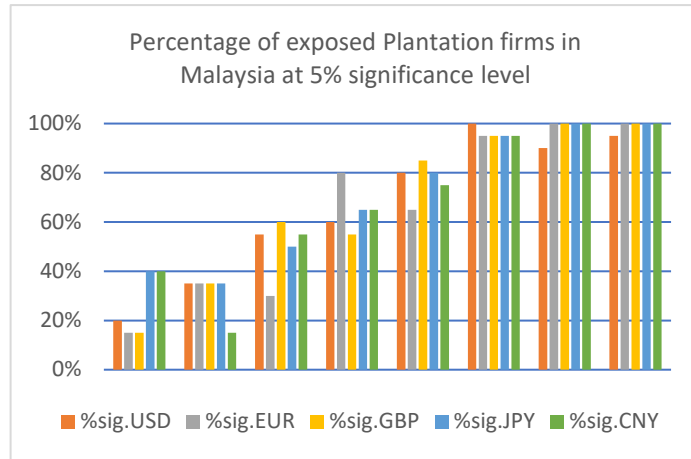


Figure 1. Percentage of exposed firms (5% significance level) across plantation firms in Malaysia at different time horizons.

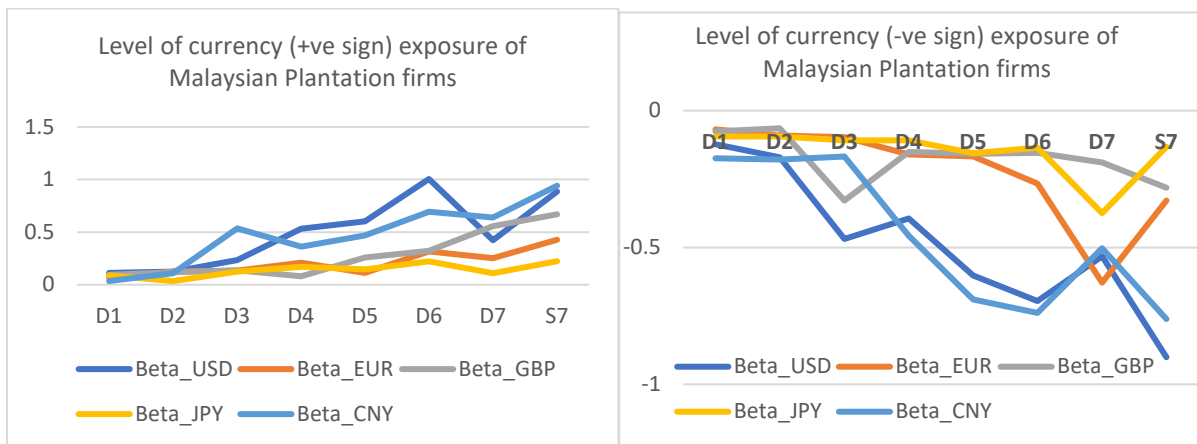


Figure 2. Time-scales currency exposure of plantation firms in Malaysia.

CONCLUSIONS

The main objective of the study is to examine the extent of exchange rate exposure of Plantation firms in Malaysia using MODWT technique. Accordingly, the study finds statistical evidence of multiscale tendency of foreign exchange risk across 7 levels of wavelet scales. Specifically, the study finds non-monotonic trends of exchange risk where large concentration of exchange risk is found at higher time scale compared to low time scale. Remarkably, the study corroborates the investment theory that explains the strong connection between the size of time interval and the level of risk.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The study enriches existing literature particularly in the field of international finance through several ways as follows;

1. The study provides new dimension on exchange risk measurement i.e., through the application of wavelet technique in addressing specification bias under single time domain assessment.
2. The study reports that the level of foreign exchange exposure in the long term is greater than short term period. While the negligible effect of exchange risk is found in the short term, firms should conduct vigorous risk management program in managing foreign exchange exposure in the long term through the right operational hedging instruments.

ACKNOWLEDGEMENT

The research is fully funded by the Ministry of Higher Education (MOHE) Malaysia under the Fundamental Research Grant Scheme code: FRGS/1/2020/STG06/USIM/02/4.

REFERENCES

- Adler, M., and Dumas, B. "Exposure to currency risk: definition and measurement." *Financial Management* 13, 1984: 41-50.
- Abdul Wahab, H., Amir Hussin, M.A., Mohd. Nordin, N., Yusoff, Y.S., and Zainudin, W.N.R.A. "Foreign Currency Exposure and Hedging Practices: New Evidence from Emerging Market of ASEAN-4." *Advanced Science Letter* 23, no.5, 2017: 4939-4943.
- Masih, M., Alzahrani, M. and Al-Titi, O. Systematic risk and time scales: New evidence from an application of wavelet approach to the emerging gulf stock markets, *International Review of Financial Analysis* 19, 2019: 10-18.
- Wan Suhaimi, W. N., Abdul Wahab, H., and Md. Sum, R. The time-varying exposure of Malaysian non-financial firms using panel and OLS analyses, *AIP proceedings* 2138, 2019(a).
- Wan Suhaimi, W.N., Abdul W.H., & Md, R.S. Currency exposure and time scales: Application of wavelet method to Malaysian non-financial firms. *International Journal of Recent Technology and Engineering, Special Issue* 3, 2019(b): 187-192.

MILLENNIALS ATTITUDE AND INTENTION ON EXTRA CONTRIBUTION OF RETIREMENT SAVINGS

*Noraini Ismail**

Universiti Tenaga Nasional, Selangor

Zulkifli Abdullah

Universiti Tenaga Nasional, Selangor

Maizaitulaidawati Md Husin

Universiti Tenaga Nasional, Selangor

***Corresponding Author:** *Ainis@uniten.edu.my*

ABSTRACT

Extra contribution on retirement savings is an essential factor to sustain a sufficient funds for the post-retirement spending. This is because by sole reliance of government pension scheme or employee provident fund (EPF), it could not sustain the desired lifestyle as well as increasing of living cost and inflation. Therefore, the main objective of this study is to identify the factors influencing millennial's attitude and intention to save extra contributions for retirement. This study will help millennial's workers recognise the importance of early retirement preparation by contributing more on retirement savings. A framework was developed based on the literature. A questionnaire was distributed to the millennial's workers in Klang Valley, ages ranged from 23 to 38 years old. Structural equation modelling through SmartPLS was conducted to test all the hypotheses in this study. The findings of this study revealed that attitude and awareness, but not financial planning and goal clarity, were crucial in affecting millennial's intention to save extra contributions for retirement. Furthermore, financial planning and awareness were found to be associated with attitude. However, goal clarity was found not to be a significant factor affecting millennial's attitude towards extra contributions of retirement savings. Finally, this study provides important insights to the Malaysian government and non-governmental organisation in conducting several programs to create an awareness towards extra contribution of retirement savings. In addition to that, financial advisors also will give a better advice on the appropriate retirement funds needed after identifying millennial's retirement goal.

KEYWORDS: Retirement saving, extra contribution, millennial, behavioural intention, attitude.

PURPOSE AND BACKGROUND

Retirement is a process that starts with a planning and decision-making, approximately before the actual end of people's working life (Beehr, 1986). Malaysian government concerned about the insufficient of retirement savings and lack of awareness on retirement planning among workers in Malaysia. Bank Negara Malaysia (BNM) reported that 92 percent of Malaysian workers were worried

about their retirement savings after retirement; 33 percent 'very worried' and 59 percent 'a bit worried' (BNM, 2016, August 10). BNM also specified that only 40 percent of Malaysian workers were financially ready for retirement and 60 percent of them are still lack of long-term financial planning. In addition to that, due to the high living cost and economic uncertainties, more than 75 percent of Malaysian workers were difficult to save a minimum of RM1,000 for emergency needs (Lin, 2017, April 07). Furthermore, according to the survey by HSBC (2015), two in five retirees declared that age 30 years old is the latest to start savings for a comfortable life after retirement. They also claimed that workers aged from 18 to 30 years old are still unstable financial wise and could not focus on retirement savings because of higher commitments. Nevertheless, 27 percent of working age people in Malaysia were not saving for retirement or do not intend to do so. Besides, Joo and Grable (2005) stated that workers unprepared to plan for retirement because of two common factors; (1) lack of sufficient funds, and (2) limited of assets. Delaying planning also will be resulting insufficient of retirement savings. Hence, extra contributions on retirement savings will help millennial's workers to ensure that they are financially ready to retire healthy in subsequent 20 years.

Therefore, this study attempts to identify the factors driving millennial's attitude and intention to save extra contributions for retirement. Hence, the following objectives were developed:

- O1: To investigate to what extent attitude is able to influence millennial's intention to save extra for retirement
- O2: To examine the influence of millennial's financial planning towards millennial's intention and attitude to save extra for retirement
- O3: To examine the influence of millennial's goal clarity towards millennial's intention and attitude to save extra for retirement
- O4: To examine the influence of millennial's awareness towards millennial's intention and attitude to save extra for retirement

METHODOLOGY

This study used partial least squares (PLS) modeling via SmartPLS. For the target sample of this study, workers which categorized as millennials generation grouped in 23 to 38 years old in Klang Valley, Malaysia has been selected. This sample is selected due to two facets; (1) millennials generation period are the best time to contribute more for retirement savings; and (2) workers in Malaysia are dominant in Klang Valley as the most developed region in Peninsular Malaysia. Additionally, non-probability convenience sampling method has been employed in this study due to the lack of census and widely spread respondents. Moreover, G*power calculator has been used for deciding the sample size. Making the required total sample size to be 153, thus, usable data of 226 respondents was collected for the analysis. Besides that, a structured questionnaire is employed in order to get

feedback and answers from the target sample through online platform. A self-administered questionnaire is developed to measure the research constructs and dimensions, as well as in collecting demographic profile. The questionnaire is divided into two sections; Section A consisted of 5-point Likert scale measurement questions ranging from strongly disagree (1) to strongly agree (5); and Section B seeks the respondent's demographic information, such as gender, age, marital status, occupation status, and educational level of respondents. Furthermore, the questionnaire is designed using an adapted questionnaire, revised from previous studies addressing similar research; Hershey and Mowen (2000); Lai and Tan (2009); Moorthy *et al.* (2012); Noone *et al.* (2010); and Petkoska and Earl (2009). To achieve the objectives of this study, 25 items in the questionnaire is modified. In order to decrease the possible doubt of the items in the questionnaire, a pre-test is conducted.

FINDINGS

This study examines millennial's attitude and intention on extra retirement savings contribution, therefore, the respondents' ages ranged from 23 to 38 years old. Of the 226 respondents, 128 (56.6%) were male and 98 (43.4%) were female. In terms of marital status, 51.3% of the respondents were married; 47.8% were single; and 0.9% were divorced. The findings also showed that the highest percentage of respondents were working in private sector with a total of 56.6%, followed by 24.3% self-employed; and 19% working in public sector. Besides, for educational level of respondents, mostly they had bachelor's degree (43.8%), followed by 28.8% respondents had STPM, diploma or certificate; 15.9% had SPM or equivalent; and 11.5% had master's degree and above.

For the measurement model, this study evaluated the loading, composite reliability and average variance extracted (AVE). Based on the analysis, AW4 and AW5 were deleted due to low loading, which less than the minimum value of 0.5. These two items should be deleted to uphold the convergent validity. After that, the composite reliability was calculated as a means of assessing the discriminant validity. The finding showed that all constructs were above than the minimum value of 0.6. Finally, all of the AVEs were higher than the suggested value 0.5 level. AVE for each construct was significantly greater than any correlations involving the construct because all constructs share greater variance with their own measures than with other constructs in the model, hence, establishing discriminant validity. Moreover, this study used heterotrait-monotrait ratio (HTMT) to measure the discriminant validity. The finding from this study revealed that the values of HTMT were all lesser than the mode lenient criterion of 0.9. As such, it can be concluded that the respondents understood the constructs are distinct. Overall, the reliability and validity criterion assessment showed that the measurement model was satisfactory. Accordingly, the model is valid and fit to keep for the estimation of the parameters of the structural model.

Furthermore, this study assessed the standard beta (β), T-values, P-values, effect size (F^2), and collinearity statistic (VIF) for the structural model, using a 5000-sample re-sample bootstrapping procedure. First, this study tested the significance influence of millennial's attitude (ATT) and the three predictors, namely, financial planning (FP), goal clarity (GC) and awareness (AW) towards millennial's intention to save extra contributions for retirement. The R-square (R^2) values for the behavioural intention construct, the predictive power of the structural model can be classified as moderate ($R^2 = 0.593$). In other words, millennial's attitude and the three predictors explained 59.3% of the variance in the intention towards extra contributions on retirement savings. Subsequently, the findings revealed that millennial's ATT and AW have significant influence on millennial's intention to save extra contributions for retirement. Hence, PLS analysis supported the hypotheses of H1 and H6. However, this study may not infer that FP and GC were able to influence millennial's intention to save extra contributions for retirement, thus, H2 and H4 were rejected. Besides, this study also tested the significance influence of three predictors; FP, GC and AW towards millennial's attitude to save extra contributions for retirement. The R^2 values was 0.313 which indicated that all the three predictors explained 31.3% of the variance in attitude towards extra retirement savings contribution. Afterward, the findings discovered that FP and AW were significant factor affecting millennial's attitude to save extra contributions for retirement, resulting in acceptance of the H3 and H7. Nevertheless, GC was not a significant factor affecting millennial's attitude towards extra contributions on retirement savings, hence, H5 was rejected.

CONCLUSIONS

The purpose of this study is to identify the factors influencing millennial's attitude and intention to save extra contributions for retirement. The conceptual framework was tested in a partial least square (PLS) against 226 of millennial's workers in Klang Valley, Malaysia ages ranged from 23 to 38 years old. Based on the finding's analysis, it was revealed that attitude and awareness have significant influence towards millennial's intention to save extra contributions for retirement. Nonetheless, financial planning and goal clarity were not be able to influence millennial's attitude on extra contributions for retirement savings. Moreover, this study also showed that financial planning and awareness were significant factor affecting millennial's attitude to save extra contributions for retirement. However, goal clarity was not discovered a significant factor affecting millennial's attitude on extra contributions of retirement savings. Consequently, significant to the economic slowdown would continue for years, millennial's workers should start diversifying their retirement savings plan in order to sustain a sufficient funds for their desired goal.

CONTRIBUTION/PRACTICAL IMPLICATIONS

This study has reached a few implications. First, to sustain a sufficient funds for the post-retirement spending of millennial's workers, they must have an effort to plan their extra contribution on retirement savings. Second, to preserve the level of awareness among millennial's workers, Malaysian government and non-governmental organisation should conducted many pre-retirement planning programs, roadshows, intervention programme, campaigns, as well as retirement training or seminars. Third, to get a better advice on the extra retirement savings contribution, financial advisors might evaluate and advise the appropriate retirement funds needed after identifying retirement goal of millennial's workers. Finally, in Budget 2021 has announced the extension of RM3,000 yearly tax relief for private retirement scheme (PRS). It is a good lead for the regulators to encourage millennial's workers in contributing more on retirement savings. Hence, this study would improve millennial's attitude and intention to save extra contributions for retirement that will lead them to have a better life after retirement.

REFERENCES

- Hershey, D. A., & Mowen, J. C. (2000). Psychological determinants of financial preparedness for retirement. *Gerontologist*, 40(6), 687-697. doi: 10.1093/geront/40.6.687
- Lai, M. M., & Tan, W. K. (2009). An empirical analysis of personal financial planning in an emerging economy. *European Journal of Economics, Finance and Administrative Sciences*, 16(1), 99-111.
- Moorthy, M. K., Durai, T., Chelliah, L., Sien, C. S., Leong, L. C., Kai, N. Z., & Teng, W. Y. (2012). A study on the retirement planning behaviour of working individuals in Malaysia. *International Journal of Academic Research in Economics and Management Sciences*, 1(2), 54.
- Noone, J., Alpass, F., & Stephens, C. (2010). Do men and women differ in their retirement planning? Testing a theoretical model of gendered pathways to retirement preparation. *Research on Aging*, 32(6), 715-738. doi: 10.1177/0164027510383531
- Petkoska, J., & Earl, J. K. (2009). Understanding the influence of demographic and psychological variables on retirement planning. *Psychology and Aging*, 24(1), 245-251.

THE ROLE OF ZAKAT INSTITUTION IN ADDRESSING CLIMATE CHANGE: THE CASE OF LEMBAGA ZAKAT NEGERI KEDAH

*Mohd Shafiq Bin Mohd Naser**
Universiti Utara Malaysia, Kedah

Mohd Sollehudin Shuib
Universiti Utara Malaysia, Kedah

Jamaliah Abdul Majid
Universiti Utara Malaysia, Kedah

***Corresponding Author:** *shafiqcairo1992@gmail.com*

ABSTRACT

Climate change is one of the global agendas of the Sustainable Development Goals, founded by the United Nations to achieve progress, development, and sustainability by the year 2030. To address the climate change issues, involvement from the government, private sectors and various institutions is required.

KEYWORDS: Climate change, Lembaga Zakat Negeri Kedah, Sustainable Development Goals (SDGs).

PURPOSE AND BACKGROUND

Zakat Institution, which is an Islamic social and finance institution, represents one of the main institutions for Muslims to refer to upon encountering hardships, and calamities. The distribution of *Zakat* fund (tithe) by this institution to eligible Muslims who are affected by climate change is an important instrument to help the victims. Thus, the present study examines the role of Lembaga Zakat Negeri Kedah in addressing climate change through their distribution of *Zakat* funds to the affected Muslims.

METHODOLOGY

This study employs mixed method via semi-structured interviews and archival data on *Zakat* distribution published by the Kedah *Zakat* Board (Lembaga Zakat Negeri Kedah, LZNK).

FINDINGS

The results show that LZNK has played an important role in helping the Muslims who were affected by the climate change. Nevertheless, the effectiveness of the *Zakat* fund distributed to the victims depends on the amount of zakat fund available, as the calamity, which arose from the climate change requires huge funds.

CONCLUSIONS

To be effective, the collection of *Zakat* fund needs to be increased to reach its target so that sufficient funds can be distributed.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The results of our study suggest that LZNK needs to plan, strategize, and implement a comprehensive and effective zakat distribution policy to succeed in its role in helping the victims of the climate change, and indirectly address the climate change issues.

ACKNOWLEDGEMENT

This research was supported by the Ministry of Higher Education (MoHE) of Malaysia through Fundamental Research Grant Scheme (FRGS/1/2020/SS01/UUM/02/27).

REFERENCES

- Haji-Othman, Y., Sheh Yusuff, M. S., & Cheumar, M. (2020). Peranan Agihan Zakat Dalam Pembasmian Kelaparan Dan Kemiskinan di Kedah. *Trend Dan Isu-Isu Dalam Teknologi, Pengurusan Dan Sains Sosial, July*, 182–186.
- Doni, F., Gasperini, A. and Soares, J.T. (2020), "What is the SDG 13?", *SDG13 – Climate Action: Combating Climate Change and its Impacts (Concise Guides to the United Nations Sustainable Development Goals)*, Emerald Publishing Limited, Bingley, pp. 21-30.
- Obaidullah, M. (2018). Managing Climate Change: Role of Islamic Finance. *Islamic Economic Studies*, 26(1), 31–62. <https://doi.org/10.12816/0050310>
- Ahmed Shaikh, S., & Ghafar Ismail, A. (2017). Role of Zakat in Sustainable Development Goals. *International Journal of Zakat*, 2(2), 1–9. <https://doi.org/10.37706/ijaz.v2i2.21>
- Abd Halim, M. N., Mohamed Saladin, A. R., Rashidah, A. R., Rozman, M. Y., & Siti Mariam, A. (2012). *Assessing performance of nonprofit organization: A framework for zakat institutions. British Journal of Economics, Finance and Management Sciences*, 5(1), 12–22.

THE IMPACT OF E-BANKING SERVICE QUALITY ON CUSTOMER SATISFACTION AMONG UNIVERSITY STUDENTS IN MALAYSIA

Nur Ain Atiqah Aznan
Universiti Sains Islam Malaysia, Negeri Sembilan

*Sharifah Fairuz Syed Mohamad**
Universiti Sains Islam Malaysia, Negeri Sembilan

Shahrina Ismail
Universiti Sains Islam Malaysia, Negeri Sembilan

***Corresponding Author:** *sh.fairuz@usim.edu.my*

ABSTRACT

This research was conducted to study the relationship between the dimensions of e-banking service quality and customer satisfaction among university students in Malaysia. Data is collected using a survey instrument and distributed to 261 respondents who are using e-banking services from three types of banks which are Bank Islam Malaysia Berhad (BIMB), Commerce International Merchant Bankers (CIMB) and Malayan Bank Berhad (MBB). Four service quality dimensions (reliability, efficiency, security and privacy, responsiveness, and communication) were used in this research based on the literature review analysis. Data was analysed using descriptive statistics, Pearson's correlation and Ordered Probit model with marginal effects. The results showed that three out of four independent variables (reliability, security and privacy, responsiveness and communication) have significant positive relationship with customer satisfaction. However, efficiency has no significant relationship on customer satisfaction among university students. Reliability has been the strongest and most significant result as a predictor of customer satisfaction.

KEYWORDS: E-banking, service quality, customer satisfaction, Pearson's correlation, Ordered Probit model.

PURPOSE AND BACKGROUND

The main purpose of this study is to identify the impact of e-banking service quality on customer satisfaction, which is specific to university students in Malaysia. Various items represent the service quality perspective, which is explained further in the methodology section. Specifically, the study has three objectives:

- (i) To identify the mostly used banks among the three banks (BIMB, CIMB and MBB)
- (ii) To rank the e-banking services offered based on students' preference

- (iii) To study the relationship between e-banking service quality (reliability, efficiency, security and privacy, responsiveness, and communication) as the independent variable with customer satisfaction as the dependent variable

METHODOLOGY

Data for the study is collected using a survey instrument which was distributed to 261 respondents who are using e-banking services from three banks, which include Bank Islam Malaysia Berhad (BIMB), Commerce International Merchant Bankers (CIMB), and Malayan Bank Berhad (MBB). The survey consisted of four service quality dimensions (reliability, efficiency, security and privacy, responsiveness, and communication). These components were used in the study based on literature and content analysis where they are represented by different questions / items in each component. Customer satisfaction as the dependent variable is based on studies by Asfour & Haddad (2014) and Islam & Salma (2014); while the components mentioned earlier are independent variables also referred from studies such as Khot (2019).

The questionnaire consisted of two parts: Part A and B. Part A contains questions on demographic profile for respondents such as gender, income, educational level, preferred types of e-banking, length of e-banking usage and frequency of e-banking use. Part B consists of five parts related to the components of service quality using a five-point likert scale ranging from 1= strongly disagree to 5 = strongly agree.

A pilot study was also conducted before distributing the questionnaire to the mass number of students to ensure the reliability of items included in the questionnaire are appropriate and understandable. The reliability analysis was done using the Cronbach Alpha value, where a good value should be between 0.7 and 1. Analysis of data was implemented using descriptive statistics, which looks at the overall respondents' profile, while Pearson's correlation and Ordered Probit model with marginal effects were methods used to fulfil the study's objectives. Analyses were done using the SPSS software and STATA.

FINDINGS

Descriptive results

The pilot study conducted to test the reliability of components in the questionnaire involving 30 students obtained the following results in table 1.

Table 1: Cronbach's Alpha for Reliability

Variables	Cronbach's Alpha	No. of items
Customer Satisfaction	0.935	6
Reliability	0.917	7
Efficiency	0.915	7
Security and Privacy	0.921	6
Responsiveness and Communication	0.884	8

Based on table 1, Cronbach's Alpha values are above 0.8, where this shows good overall results for the reliability of questions in the survey. Once the reliability has been confirmed, the survey was distributed to university students, where data from a total of 261 respondents were collected. Results of descriptive statistics involving respondents' profile and information on bank usage are in table 2.

Table 2: Descriptive Statistics

Demographic Variables	Category	Frequency	Percentage (%)
Gender	Male	62	23.8
	Female	199	76.2
Education Level	Diploma / A- level / STPM / Foundation	27	10.3
	Bachelor's Degree	231	88.5
	Masters	3	1.1
	PhD	0	0
Preferred Bank	BIMB	151	57.9
	CIMB	39	14.9
	MBB	71	27.2
Length of e-banking use	Less than a year	17	6.5
	Between 1 – 3 years	152	58.2
	Between 4 – 7 years	89	34.1
	More than 8 years	3	1.1
Frequency of e-banking usage	Once per month	27	10.3
	Twice per month	37	14.2
	More than three times per month	197	75.5

Based on table 2, the first objective is answered. The study involved students from various students such as Universiti Sains Islam Malaysia (USIM), Universiti Teknologi Mara (UiTM), Universiti

Malaya (UM), Universiti Malaysia Terengganu (UMT) and Universiti Utara Malaysia (UUM). The most preferred bank among the three banks included in the option is Bank Islam Malaysia Berhad (BIMB) where 57.9 percent of respondents prefer this bank.

With regards to the second objective, respondents were asked to rank the services offered from a list of five services from the highest priority (1) to the lowest priority (5). The five services listed are: (1) checking account balances and account statements, (2) transfer funds between accounts (Own- and third-party accounts), (3) pay bills, credit cards, loans and insurance premium, (4) make a fixed deposit investment and (5) apply for account and credit card of facility new loans. Results show that the first service listed (checking account balances and account statements) is considered the priority service for university students included in the sample; while applying for account and credit card or loans was not a priority for them as this was ranked last.

In achieving the third objective, Pearson correlation and ordered probit regression were used. Pearson correlation is important to make sure that independent variables are not highly correlated before proceeding with the regression, where according to Franke (2010), a correlation value of 0.8 and above indicates a multicollinearity problem. From the results, all independent variables are considered good as the values are all lower than 0.7. Regression results using STATA show that three out of the four independent variables are significant towards the dependent variable. This means that the service quality components including reliability (R), security and privacy (SP) and responsiveness and communication (RC) are significant towards customer satisfaction; however, efficiency (EFF) is not significant at the 5% level. This is shown from result of p-values which are less than 5% for R, SP, and RC. The insignificant result for EFF in this study is however, inconsistent with previous studies such as Lee & Wong (2016) and Roozbahani et al. (2015). This may be due to the different perception of students' preference.

CONCLUSIONS

The aim of this study was to see the impact of service quality components on customer satisfaction in banking among university students in Malaysia. The objectives of the research have been achieved. For the first objective, it was found that BIMB is the most preferred bank among the three listed in the survey (BIMB, CIMB and MBB). For the second objective, respondents ranked service 1 (checking account balances and account statements) as the top priority while service 5 (apply for account and credit card of facility new loans) as the least priority. This is consistent with the nature of university students who do not actually have the credibility to apply for loans. Finally, with regards to the third objective, the findings show that three out of four independent variables are significant towards influencing customer satisfaction among university students; that is reliability, security and privacy, and responsiveness and communication, while efficiency is not significant at the 5% level.

CONTRIBUTION/PRACTICAL IMPLICATIONS

The paper is hoped to give contribution to the banking industry, especially the Islamic banks in understanding the factors influencing customer satisfaction focusing on specific target – which are university students. The vulnerabilities that emerge during the conduct of this research would open the eyes of banking institutions to enhance and develop the services offered to clients. This study can also be leveraged to develop a wider consumer base and draw new customers to e-banking/

ACKNOWLEDGEMENT

The authors gratefully acknowledge the sponsor of this research, Minister of Higher Education of Malaysia (MOHE) for funding this research project with reference code (FRGS/1/2018/SS01/USIM/02/1).

REFERENCES

- Asfour, H. K., & Haddad, S. I. (2014). The Impact of Mobile Banking on Enhancing Customers' E-Satisfaction: *An Empirical Study on Commercial Banks in Jordan. International Business Research, 7*(10). <https://doi.org/10.5539/ibr.v7n10p145>
- Islam, K. M. A., & Salma, U. (2014). Customer Satisfaction of Internet Banking in Bangladesh : A Case Study on Citibank N . A. *3*(1), 51–62.
- Khot, A. S. (2019). The Impact of Mobile Banking on Customer Satisfaction. *International Journal of Trend in Scientific Research and Development, Special Is (Special Issue-FIIIPM2019)*, 21–23. <https://doi.org/10.31142/ijtsrd23053>
- Lee, W. O., & Wong, L. S. (2016). Determinants of Mobile Commerce Customer Loyalty in Malaysia. *Procedia - Social and Behavioral Sciences, 224*(August 2015), 60–67. <https://doi.org/10.1016/j.sbspro.2016.05.40>
- Roobahani, F. S., Hojjati, S. N. & Azad, R. (2015). The Role of E-Payment Tools and E-Banking in Customer Satisfaction Case Study: 36 Pasargad Bank E-Payment Company. *International Journal of Advanced Networking and Applications (IJANA)*, *7*(02), 2640–2649. <http://www.ijana.in/papers/V7I2-1.pdf>

DETERMINANT OF HOUSEHOLD WATER USAGE AND CONSUMER BEHAVIOUR IN TERENGGANU

*Zuraini Anang**

Universiti Malaysia Terengganu, Terengganu

Mahirah Kamaludin

Universiti Malaysia Terengganu, Terengganu

Noorhaslinda Kulub Abd Rashid

Universiti Malaysia Terengganu, Terengganu

***Corresponding Author:** *zura@umt.edu.my*

ABSTRACT

In the 21st century, water scarcity has become a crucial issue around the world. Rapid population growth, urbanisation and climate change related uncertainties are some of the factors influencing the availability of water consumption, particularly domestic consumption. Klang Valley, Selangor, Johor, Perlis, Melaka, and Negeri Sembilan have all experienced water shortages. Despite Malaysia being a country with high rainfall intensity, a growing area of concern is freshwater scarcity. Thus, the main objectives are to examine the water consumption pattern and identify the drivers that lead to water saving from household consumption. The sample comprises 271 households. The result revealed that the level of water consumption pattern in the daily routine is high and moderate. The range is between 4.11 and 3.70, respectively. The most important factors are house type, marital status, and motivation to control toward water conservation. The findings of water consumption patterns are useful to a water operator in order to manage and educate the household, such as a campaign to use water in a sustainable manner and conserve the water.

KEYWORDS: scarcity, water crisis, pattern, water usage, consumer behaviour

PURPOSE AND BACKGROUND

Even though Malaysia is blessed with an abundance of rainfall that contributes to an abundance of water resources, Due to the increasing population, industrialization and urbanization, the water demand is projected to increase at a rate of 12% per year throughout Malaysia. The current water demand of 12 billion m³/year will increase to 20 billion m³/year in 2020. The United Nations has recommended that the water per person per day be 200 litres for Malaysians. Currently, Malaysians consume between 220 and 250 litres of water per person per day. For instance, the value of water consumption is 214 litres per person per day in Terengganu and 234 litres per day in Selangor (MWIG, 2016). It indicates that consumers' behaviour and attitudes towards water consumption are

ineffective. This situation leads to freshwater scarcity in the long run, which has become a crucial issue nowadays among developed and developing countries. This research has been conducted to identify the determinants of water saving from socioeconomic variables and TPB aspects.

METHODOLOGY

A face-to-face survey was employed in two districts between December 2021 and February 2022. A total of 300 responses were obtained from respondents. Next, after data cleaning, all 271 cases remained as sample analysis. In addition, the Theory of Planned Behaviour (TPB) model is used to identify consumer behaviour for water conservation. This study has enabled defining the level of consumer awareness in terms of the water saving approach and the factors determining that awareness. This knowledge will fill in the gap for those managing households towards water conservation. Next, descriptive analysis is applied to domestic water consumption data. To determine the factors of domestic water usage, the model applied is as follows:

$$\text{Water Usage } i = \beta_0 + \beta_1 \text{gen } i + \beta_2 \text{child } i + \beta_3 \text{house } i + \beta_4 \text{ms } i + \beta_5 \text{inc } i + \beta_6 \text{intention } i + \beta_7 \text{belief } i + \beta_8 \text{motivation } i + \varepsilon_i$$

where i denotes the number of individual $i=1, \dots, N$. The variable *water usage* i is water consumption, $\beta_1 \text{gen } i$ is gender, $\beta_2 \text{child } i$ is number of children, $\beta_3 \text{house } i$ is a type of house, $\beta_4 \text{ms } i$ is marital status, $\beta_5 \text{inc } i$ is income, $\beta_6 \text{intention } i$ is intention, $\beta_7 \text{belief } i$ is belief, $\beta_8 \text{motivation } i$ is motivation control, and ε_i is error term.

FINDINGS

Descriptive Analysis

The majority of respondents were male (59.2%) and female (40.8%). They were aged between 31 and 40 years (32.5%), followed by those 20 to 30 years old (29.9%). Most respondents had a household number of 3 to 5 people (49.8%). They lived in terrace houses (47.2%). It is followed by the semi-D and the bungalow. The majority are married, approximately 77.9%.

Multiple Regression

In terms of socioeconomic variables, type of house and marital status are considered as factors for water conservation in daily activities. The significant levels were at 0.10% and 0.01% respectively. The element of motivation to comply in the theory of planned behaviour (TPB) is significant at 0.01%. It indicates that with a 1% increase in motivation to comply with the behaviour, households intend to save more water and use water wisely.

CONCLUSIONS

The type of house determines the number of bathrooms and the size of the garden. Therefore, when the type of house is bigger, the water consumption is higher than when the house is small, as well as the marital status of households. Those who are married use more water than single households. This might be a number of households is greater. Therefore, they consume more water for indoor and outdoor activities. In terms of the TPB variable, motivation to control is a driver that influences water saving. This means that motivation from people such as family members, relatives, and friends, will influence their water-saving behavior.

CONTRIBUTION/PRACTICAL IMPLICATIONS

These findings are important to understanding consumer behaviour toward water conservation. The increased awareness of water as a valuable resource that is rapidly depleting in order to supply 7 billion people due to water pollution and urbanization. This study is the first attempt to apply TPB to water saving in Malaysia. As a result, analysing consumer behaviour leads to developing an efficient attitude toward water conservation, and policymakers should consider the role of TPB variables in encouraging behaviour among households.

REFERENCES

- Addo, I. B., Thoms, M. C., & Parsons, M. (2018). Barriers and drivers of household water-conservation behavior: a profiling approach. *Water*, 10(12), 1794.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Gilbertson, M., Hurlimann, A. & Dolnicar, S. (2011). Does Water Context Influence Behaviour and Attitudes to Water Conservation? *Australasian Journal of Environmental Management*, 18(1), 47-60.
- Kumar Chaudhary, A., Warner, L. A., Lamm, A. J., Israel, G. D., Rumble, J. N., & Cantrell, R. A. (2017). Using the Theory of Planned Behavior to Encourage Water Conservation among Extension Clients. *Journal of Agricultural Education*, 58(3), 185-202.
- Okumah, M., Yeboah, A. S., Nkiaka, E., & Azerigyik, R. A. (2019). What determines behaviours towards water resources management in a rural context? Results of a quantitative study. *Resources*, 8(2), 109.

LIST OF PAPER REVIEWERS

Bakhtiar Alrazi, Universiti Tenaga Nasional
Fathilah Ismail, Universiti Malaysia Terengganu
Fariza Hanim Rusly, Universiti Utara Malaysia
Ilhaamie Abdul Ghani Azmi, Universiti Malaya
Jumadil Saputra, Universiti Malaysia Terengganu
Marziana Madah Marzuki, Universiti Teknologi Mara
Mohd Suhaimi Shamsuddin, Universiti Malaysia Terengganu
Mazurina Mohd Ali, Universiti Teknologi Mara
Mahirah Kamaludin, Universiti Malaysia Terengganu
Nizam Ahmat, Universiti Malaysia Terengganu
Nathasa Mazna Ramli, Universiti Sains Islam Malaysia
Nur Azliana Haniza Che Pak, Universiti Utara Malaysia
Nazatul Faizah Haron, Universiti Sultan Zainal Abidin
Norhayati Mat Husin, Universiti Tenaga Nasional
Salwa Hana Yussof, International Islamic University Malaysia
Sa'adiyah Munir, Monash University Malaysia
Siti Nurain Muhmad, Universiti Malaysia Terengganu
Siti Nur 'Atikah Zulkiffli, Universiti Malaysia Terengganu
Ummi Salwa Ahmad Bustamam, Universiti Sains Islam Malaysia
Zairihan Abdul Halim, Universiti Malaysia Terengganu

PROCEEDING
7th INTERNATIONAL CONFERENCE ON ACCOUNTING,
BUSINESS AND ECONOMICS
ICABEC 2022

International Conference on Accounting, Business and Economics (ICABEC) is proudly organized by the Faculty of Business, Economics and Social Development (FBESD), Universiti Malaysia Terengganu (UMT). Being held on a hybrid mode, ICABEC 2022 complements the growing importance of sustaining the economic prosperity of the nation through the dissemination of recent research findings on the related fields. With the theme “Green Business Towards Sustainable Development”, this 7th edition brings together academicians and practitioners in knowledge sharing pertaining to issues and challenges in safeguarding stakeholders’ interests for future sustainable business environment. This proceeding compiles the research on sustainable business environment from the perspectives of accounting, business, economics, marketing and finance. It is hoped that ICABEC 2022 has served as a platform that look into potential solutions that can help businesses to stimulate recovery and sustainability and ensure a more prosperous future.

ICABEC 2022

7th International Conference on Accounting, Business and Economics

“ Green Business towards Sustainable Development ”

**FACULTY OF BUSINESS, ECONOMICS AND SOCIAL DEVELOPMENT
UNIVERSITI MALAYSIA TERENGGANU**



<https://bit.ly/icabec2022>